

# CHILD-LIFE ARITHMETICS




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# CHILD-LIFE ARITHMETICS

## GRADE FOUR

By  
CLIFFORD WOODY

*School of Education, University of Michigan*

FREDERICK S. BREED

*Department of Education, University of Chicago*

JAMES R. OVERMAN

*Dean, College of Liberal Arts, Bowling Green  
State University*

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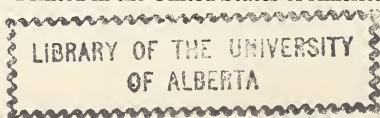
# ACKNOWLEDGMENTS

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*Illustrated by*  
GRACE GLAUBITZ  
MARIE O'HARA  
MILDRED LYON HETHERINGTON

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## INTRODUCTION

An institution is said to be nothing more than the elongated shadow of a man. Modern arithmetic in America is the lengthened shadow of Warren Colburn. It was he who in 1821 broke the monopolistic fetters of adult standards in this subject and gave to us our first real text for children. Today the Colburn-Pestalozzi tradition lives on in undiminished force. In our thinking about methods it has lifted the psychological processes of the child to a place of equal importance with the mathematical processes of the subject.

In their work of several years on this series of texts, authors and publishers alike have placed the demands of childhood in the front rank of preferred claims. This will explain the upward gradation of certain major topics; the more gradual development of complex computational processes; the use of relatively small units with their pleasant variety, page unity, and short attention span; the meticulous elimination of unnecessary vocabulary and other linguistic difficulties; the systematic introduction of arithmetical processes in social situations familiar to children; the painstaking attempt to make the necessary technical terms meaningful on their first occurrence; the carefully phrased explanations of new arithmetical processes; the conspicuous presentation of generalizations following their development and preceding their application; the wide variety of projects, whose interest appeal is enhanced by hundreds of beautiful illustrations in three and four colors; the adjustment to individual differences by a scientifically organized program of diagnostic testing with remedial exercises keyed thereto; and the definite provision of enrichment for the ablest pupils.

These and other features of the books are the direct result of a sustained endeavor to smooth the way of the child to competence by a more natural and scientific approach. And such an endeavor reflects the basic aspiration of all instructional methodology.

THE AUTHORS

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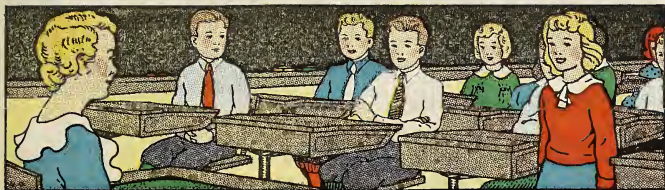
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## CHAPTER 1

### ADDITION



#### How We Have Used Numbers

Miss Marsh asked the children to tell how they had used numbers when they were not in school.

John and his brother had sold lemonade at the tennis court. They counted change, figured their expenses, and found how much money they had left.

Betty went on an auto trip with her parents. She kept a record of the distance they drove and of all expenses of the trip.

Jim and Fred sold papers and magazines. They counted the papers and magazines they sold. They counted the amount of money they received.

Harold helped at his uncle's gas station. He used pint, quart, and gallon measures.

In what ways have you used numbers?

## John's Lemonade Stand

1. The first day John and Robert made a gallon of lemonade. In the third grade you learned about some of the measures we use. Write the table telling about pints, quarts, and gallons.



2. The first four days they sold 12, 9, 14, and 16 glasses of lemonade. How many glasses of lemonade did they sell in the first four days?

To find how many glasses of lemonade they sold, add 12, 9, 14, 16.

Begin at the right. Add from the top down.

12
9
14
16
<u>   </u>

Add the **ones'** or **units'** column.

Say only the **sums**: 11, 15, 21.

Write the 1 of 21 in the sum under units' column.

Add the 2 of 21 in **tens'** column.

Add tens' column: 3 (2+1), 4, 5.

Write 5 in the sum under tens' column.

The boys sold 51 glasses of lemonade.

3. During three weeks they paid for lemons as follows: 38¢, 37¢, 43¢, 36¢, 59¢. How much did they pay for all these lemons?

## KNOWING THAT YOU KNOW

Write the answers to the first row across the top of your paper. Then fold your paper and write the answers to the next row, and so on. Add down. **Check** your answers by adding up.

### Test 1. Small Numbers Time, 2 minutes

8	6	9	7	4	9	4	6	5
<u>9</u>	<u>7</u>	<u>5</u>	<u>8</u>	<u>7</u>	<u>7</u>	<u>9</u>	<u>8</u>	<u>7</u>
6	4	8	7	6	2	9	4	3
<u>2</u>	<u>8</u>	<u>1</u>	<u>6</u>	<u>5</u>	<u>7</u>	<u>3</u>	<u>9</u>	<u>8</u>
<u>5</u>	<u>3</u>	<u>7</u>	<u>5</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>

Write in a column and add: 14, 2, 12, 6, 7

### Test 2. Larger Numbers Time, 3 minutes

46	72	20	413	202	540	361
<u>21</u>	<u>37</u>	<u>34</u>	<u>305</u>	<u>721</u>	<u>826</u>	<u>903</u>
<u>93</u>	<u>28</u>	<u>29</u>	<u>636</u>	<u>479</u>	<u>474</u>	<u>227</u>
19	19	56	72	39	64	38
<u>56</u>	<u>43</u>	<u>17</u>	<u>24</u>	<u>60</u>	<u>17</u>	<u>20</u>
<u>37</u>	<u>30</u>	<u>58</u>	<u>90</u>	<u>57</u>	<u>97</u>	<u>69</u>
<u>40</u>	<u>67</u>	<u>13</u>	<u>42</u>	<u>58</u>	<u>77</u>	<u>54</u>

If you made a mistake on Test 1 or Test 2, work the exercises of the same number on pages 4 and 5. If you made no mistakes, skip pages 4 and 5.

**HELPING YOU TO KNOW**

Add down and write the sums on a folded paper. Check your answers by adding up.

**Exercise 1. Helps in Adding Small Numbers**

<u>4</u>	<u>7</u>	<u>6</u>	<u>6</u>	<u>8</u>	<u>5</u>	<u>4</u>	<u>9</u>	<u>9</u>
<u>9</u>	<u>8</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>7</u>	<u>7</u>	<u>5</u>	<u>7</u>
<u>9</u>	<u>6</u>	<u>3</u>	<u>6</u>	<u>4</u>	<u>7</u>	<u>8</u>	<u>2</u>	<u>4</u>
<u>3</u>	<u>5</u>	<u>8</u>	<u>2</u>	<u>9</u>	<u>6</u>	<u>1</u>	<u>7</u>	<u>8</u>
<u>5</u>	<u>3</u>	<u>7</u>	<u>5</u>	<u>6</u>	<u>5</u>	<u>7</u>	<u>4</u>	<u>3</u>

Write in columns and add. Keep each column straight.

- (a) 15, 3, 6, 7, 2      (b) 18, 6, 17, 3, 2  
 (c) 40, 9, 21, 7, 8      (d) 14, 2, 12, 6, 7  
 (e) 21, 6, 5, 19, 3      (f) 50, 2, 24, 8, 3  
 (g) 7, 9, 3, 12, 5

**Exercise 2. Helps in Adding Larger Numbers**

72	20	46	361	202	413	540
37	34	21	903	721	305	826
<u>28</u>	<u>29</u>	<u>93</u>	<u>227</u>	<u>479</u>	<u>636</u>	<u>474</u>
56	19	19	64	72	38	39
17	56	43	17	24	20	60
58	37	30	97	90	69	57
<u>13</u>	<u>40</u>	<u>67</u>	<u>77</u>	<u>42</u>	<u>54</u>	<u>58</u>

## HELPING YOU TO KNOW

Write the sums on a folded paper and check.

**Exercise 1. Helps in Adding Small Numbers**

<u>3</u> <u>7</u>	<u>9</u> <u>4</u>	<u>8</u> <u>6</u>	<u>0</u> <u>7</u>	<u>5</u> <u>6</u>	<u>4</u> <u>7</u>	<u>9</u> <u>6</u>	<u>8</u> <u>8</u>	<u>3</u> <u>9</u>
<u>1</u> <u>6</u> <u>5</u>	<u>3</u> <u>7</u> <u>4</u>	<u>2</u> <u>9</u> <u>6</u>	<u>4</u> <u>9</u> <u>8</u>	<u>1</u> <u>5</u> <u>8</u>	<u>5</u> <u>7</u> <u>0</u>	<u>7</u> <u>3</u> <u>8</u>	<u>6</u> <u>4</u> <u>9</u>	<u>8</u> <u>6</u> <u>6</u>

**Exercise 2. Helps in Adding Larger Numbers**

Add 3 to each of these numbers:

11    21    31    41    51    61    71    81    91

Copy and write the sums. What do you notice about the endings and answers in this row?

<u>5</u> <u>4</u>	<u>15</u> <u>4</u>	<u>25</u> <u>4</u>	<u>35</u> <u>4</u>	<u>45</u> <u>4</u>	<u>7</u> <u>6</u>	<u>17</u> <u>6</u>	<u>27</u> <u>6</u>	<u>87</u> <u>6</u>	<u>97</u> <u>6</u>
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Add 8 to each of these numbers:

12    17    13    25    38    26    54    67    89    60

What figure should you write in the ones' column of the first sum below? What figure do you add with the tens' column? Find all the sums.

<u>25</u> <u>37</u>	<u>69</u> <u>44</u>	<u>87</u> <u>29</u>	<u>63</u> <u>48</u>	<u>625</u> <u>443</u> <u>236</u>	<u>527</u> <u>642</u> <u>368</u>	<u>26</u> <u>35</u> <u>42</u>	<u>52</u> <u>14</u> <u>36</u>
------------------------	------------------------	------------------------	------------------------	--	--	-------------------------------------	-------------------------------------

### THE GOAL

For the pupils who made no mistakes on page 3.  
Try to reach the GOAL in all the tests.

1. Write the sums of these numbers on your paper. Do not copy the examples. Time,  $1\frac{1}{2}$  min.

3	7	1	6	5	9	4	3
7	4	8	6	2	9	6	0
7	4	9	8	5	6	1	5
8	4	7	5	7	0	9	6
7	3	8	8	8	6	4	9
<u>3</u>	<u>9</u>	<u>8</u>	<u>6</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>8</u>

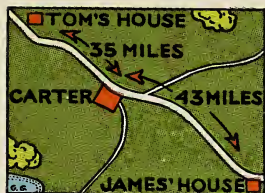
Solve each problem below. Copy the numbers on your paper. In problems 2 and 3 write the answers as dollars and cents.

2. Marge had 75 cents. Her uncle gave her 27 cents more, and she got 90 cents (9 dimes) as a birthday gift. How much money did she have then?

3. The spelling book cost Ethel 25 cents, the notebook 7 cents, the arithmetic 36 cents, and the reader 48 cents. How much did all these cost?

4. One day last week Clark helped the gateman at the county fair. In one hour 642 people went through the gates, the next hour 423 came in, and during the third hour 536 entered. How many came into the fair in the three hours?

## Adding Two-Figure and One-Figure Numbers 7



1. Tom and James live on highway 61. Tom's house is 35 miles from the town of Carter, and James lives 43 miles in the opposite direction. How far apart do the two boys live?

2. Four of the boys were weighed for the games. Tom weighed 68 pounds; Bob, 70 pounds; Jack, 59 pounds; and Carl, 66 pounds. How many pounds did all these boys weigh?

3. On June 1 Roy had \$29 in the bank. During the month he put into the bank \$14, \$17, and \$19. He did not take out any money. How much money did he have in the bank at the end of the month?

Add quickly and write the answers on a folded paper. Time, 3 minutes.

4.	$\begin{array}{r} 80 \\ 14 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ 52 \\ \hline \end{array}$	$\begin{array}{r} 24 \\ 70 \\ \hline \end{array}$	$\begin{array}{r} 30 \\ 60 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ 33 \\ \hline \end{array}$	$\begin{array}{r} 90 \\ 10 \\ \hline \end{array}$	$\begin{array}{r} 55 \\ 42 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ 18 \\ \hline \end{array}$
----	---	---	---	---	---	---	---	---

5.	$\begin{array}{r} 27 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 65 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 53 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 91 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ 5 \\ \hline \end{array}$
----	--	--	--	--	--	--	--	--

6.	$\begin{array}{r} 39 \\ 2 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 94 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 24 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ 9 \\ \hline \end{array}$
----	--	--	--	--	--	--	--	--

## 8 Signs and Terms Used in Addition

The plus sign (+) means add.

1. Read and say the answers quickly.

$33 + 3 =$

$22 + 23 =$

$3 + 7 + 5 =$

$62 + 2 =$

$43 + 44 =$

$6 + 8 + 3 =$

$41 + 4 =$

$31 + 36 =$

$4 + 9 + 2 =$

2. Say the answers quickly. Add down.

4	8	7	6	5	9	6	8	4	5
6	2	6	8	7	9	9	8	9	8
7	2	5	2	6	0	7	3	5	6
<u>3</u>	<u>9</u>	<u>4</u>	<u>7</u>	<u>3</u>	<u>6</u>	<u>1</u>	<u>5</u>	<u>7</u>	<u>9</u>

3. Write each example in exercise 2, using the plus sign (+). Write the first example this way.

$$4 + 6 + 7 + 3 = 20$$

In addition the **numbers added** are called **addends**. In an addition example the **answer** is called the **sum**.

44	Addend
79	Addend
81	Addend
<u>204</u>	Sum

4. Copy and write the sums. Add down.

2	36	765	82	987	6	44	762
7	42	728	41	304	8	37	481
<u>9</u>	<u>75</u>	<u>195</u>	76	983	2	51	936
			<u>32</u>	<u>766</u>	<u>7</u>	<u>86</u>	<u>825</u>

5. After you have finished exercise 4,

(a) Tell how many addends are in each example.

(b) Name the addends.

(c) Name the sums.

# Addition of Longer Columns and Larger Numbers

9

Write your answers on a folded paper. Try to finish each row correctly in less than 2 minutes.

## Exercise 1

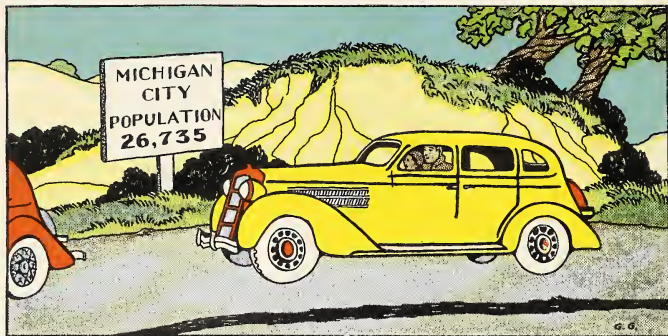
	7	4	9	3	6	6	4	2	3
Row	6	8	6	8	9	8	9	9	4
1	4	6	8	5	3	4	7	7	5
	<u>7</u>	<u>7</u>	<u>8</u>	<u>7</u>	<u>7</u>	<u>5</u>	<u>4</u>	<u>6</u>	<u>9</u>
	3	4	9	4	5	6	5	8	3
Row	6	2	2	2	8	4	7	5	4
2	5	9	5	8	2	5	6	2	8
	<u>6</u>	<u>4</u>	<u>8</u>	<u>4</u>	<u>6</u>	<u>9</u>	<u>5</u>	<u>5</u>	<u>5</u>
	<u>3</u>	<u>7</u>	<u>6</u>	<u>5</u>	<u>6</u>	<u>3</u>	<u>9</u>	<u>6</u>	<u>4</u>

## Exercise 2

Row	467	328	449	157	375	195	559
3	<u>235</u>	<u>537</u>	<u>365</u>	<u>549</u>	<u>200</u>	<u>275</u>	<u>345</u>
Row	295	695	980	375	465	855	765
4	<u>79</u>	<u>82</u>	<u>30</u>	<u>95</u>	<u>77</u>	<u>89</u>	<u>29</u>
Row	155	261	79	82	100	605	750
5	<u>54</u>	<u>670</u>	<u>334</u>	<u>559</u>	<u>75</u>	<u>38</u>	<u>8</u>

## Exercise 3

Row	623	834	457	861	791	941	459
6	<u>231</u>	<u>387</u>	<u>631</u>	<u>234</u>	<u>542</u>	<u>947</u>	<u>476</u>
	<u>952</u>	<u>254</u>	<u>462</u>	<u>915</u>	<u>784</u>	<u>985</u>	<u>936</u>
Row	5627	7362	9649	3748	2546	8734	
7	<u>2585</u>	<u>5385</u>	<u>5897</u>	<u>7843</u>	<u>3157</u>	<u>5269</u>	



### What Bob Learned on the Road

Bob made a trip with his father from Chicago to Detroit. In many cities along the way they saw signs telling the population, the number of schools and churches, and other facts about the city.

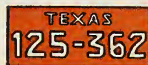
1. In Michigan City the sign said the population was **26,735**. Bob could not read this large number. His father told him to call the "26" twenty-six thousand, and then read the right-hand figures. Bob read, **twenty-six thousand, seven hundred thirty-five**. Read the number as Bob did.

2. The sign at Jackson said the population of the city was 55,187. Bob read the number this way: fifty-five thousand, one hundred eighty-seven. Was that correct?

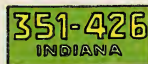
3. See if you can read the population of some of the cities in the United States:

Gary	100,426	Battle Creek	43,573
Mobile	68,202	Nashville	153,866
Albany	127,412	Camden	118,700
Glendale	62,736	Augusta	60,342
Ann Arbor	26,944	Vicksburg	22,943
Columbia	51,581	Scranton	143,433

4. The car ahead of Bob and his father had a license plate on it like this one. Bob's father told him to read the "125" as 125 thousand and then finish the number. Read the number the way Bob did.



5. Bob saw another license plate. It was like this one. Bob read it, three hundred fifty-one thousand, four hundred twenty-six. Write this number, using a comma between hundreds and thousands. Read it.



6. Write these numbers in figures and read them:
- (a) Forty-nine thousand, six hundred fifteen
  - (b) One hundred five thousand, twenty-four
  - (c) Sixteen thousand, one hundred sixty-nine
  - (d) Two thousand, twenty
  - (e) Three thousand, eighty-seven

In the third grade you learned about **ones**, **tens**, and **hundreds**. These are the three figures in the first group at the right in a number. This group contains the ones or units, the tens, and the hundreds.

1. Read each of these numbers and tell how many are in ones' place, in tens' place, and in hundreds' place.

579      851      708      226      430      400      64      8

It is easier to read large numbers if you remember that the figures are in groups of three, beginning at the right. These groups usually are separated by commas to make the numbers easy to read.

2. Read the number 4,256 as "four thousand, two hundred fifty-six." Read it without saying "and." Read 162,741 as "one hundred sixty-two thousand, seven hundred forty-one." Notice that the second group of three figures from the right is **thousands**.

3. Read these numbers: 2,940; 36,475; 432,687; 32,105. Remember to read such numbers without saying "and."

4. Read these numbers:

45,623	290,906	150,248	208,693
237,116	985,500	14,868	475,123

## How We Read Numbers in Life

Numbers having four figures are often read as hundreds and units without saying thousands. The year 1920 is read "nineteen hundred twenty." It is sometimes read "nineteen twenty." Do not say "and" when you give the number of a year.

1. Read these years: 1776, 1800, 1901, 1950.

In writing dates, B.C. means "Before the birth of Christ"; A.D. means "After the birth of Christ."

2. Read these dates and tell what each means:

1935 A.D.

800 B.C.

1492 A.D.

Telephone numbers are read by naming each figure in the number without saying thousand or hundred. Read "0" like the letter "o" in "go." Read the telephone number 1750 as "one, seven, five, 0."

3. Read these telephone numbers:

5409

6831

9272

1325

4439

Read the number on this license, "four hundred ninety-six thousand, three hundred seventy," or like a telephone number, "4 9 6 3 7 0."



4. Read these license numbers in the two ways. Some states use letters with the numbers.



**Telling Where You Live**

Money numbers are read the same as other numbers, but you read the decimal point between dollars and cents by saying "and." Always remember to read the sign \$ with the number of dollars.

1. Read these money numbers:

\$5,728    \$5,728.50    \$82,405    \$62,405.25    \$101,725

House numbers in cities are usually read without saying "thousand" or "hundred." Read 1842 Broadway, "eighteen, forty-two Broadway."

2. Read these street addresses in the usual way:

2435 Fulton Avenue

816 Chester Street

3. Write your street address, and read it to the class.

4. Write these numbers in figures:

(a) Five thousand, two hundred ten

(b) Two thousand, ninety-nine dollars

(c) One hundred seventy-two thousand, three hundred fifty-four

(d) Fifty thousand, six hundred seventy-two dollars and fifty cents

(e) Two hundred sixty-nine thousand, seven hundred

5. Read these numbers:

6,151

80,000

651,000

420,956

506,270

## How People Wrote Numbers Long Ago

Look in the table below. Answer these questions.

1. How did the Romans write these numbers?

1      2      3      5      10      50      100      500      1000

2. How did the Romans write 4? 6? Putting **I** before **V** subtracts 1 from 5. Putting **I** after **V** adds 1 to 5.

3. Tell how the Romans wrote 9, 11. Where did they put **I** in each of these numbers? Why?

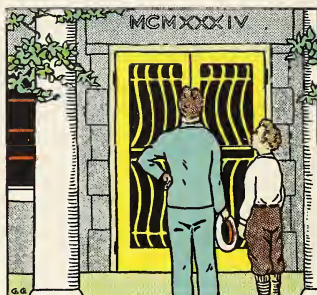
4. Sometimes the Romans used more than one **I** after **V** or **X**. How did they write 7, 8, 12, 13?

5. How did the Romans write 40? 50? 60? How did they write 90? 100? 110? Tell why they used **X** before and after **L** and **C**.

### Roman Numerals

1	I	11	XI	21	XXI	100	C
2	II	12	XII	24	XXIV	110	CX
3	III	13	XIII	25	XXV	120	CXX
4	IV	14	XIV	26	XXVI	150	CL
5	V	15	XV	30	XXX	190	CXC
6	VI	16	XVI	40	XL	200	CC
7	VII	17	XVII	50	L	400	CD
8	VIII	18	XVIII	60	LX	500	D
9	IX	19	XIX	70	LXX	900	CM
10	X	20	XX	90	XC	1000	M

## 16 The Roman Way of Writing Numbers



### How We Use Roman Numbers Now

1. In some books the chapter numbers are given in Roman numerals. Read these chapter numbers.  
XIV   XVI   XX   XXV   XXVI   XIX   XL

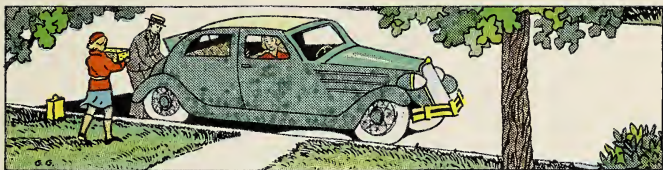
2. Robert and his father visited an old church in the East. The date on the corner stone was MDCCLXII. Look at the table on page 15 and read the number.  $M=1000$ ,  $D=500$ ,  $CC=200$ ,  $LX=60$ ,  $II=2$ . Find the sum of these numbers.

3. In the South John and his uncle saw a new courthouse with this date over the door, MCMXXXIV. John asked when the courthouse was built. Can you tell?  $M=?$   $CM=?$   $XXX=?$   $IV=?$  Add.

4. What number is this year on the calendar? Look in the table, and write the Roman number.

## CHAPTER 2

### SUBTRACTION



#### Betty's Auto Trip

1. When Betty's family started, their new car had run only 653 miles. At noon the speedometer read 862 miles. How far had they gone?

To find how far they had gone, subtract 653 from 862. Begin on the right.

You cannot subtract 3 from 2.

Add 10 to 2, making 12.

Add 1 to 5, making 6.

Think: 3 from 12 = 9. Write 9 under 3.

Think: 6 from 6 = 0. Write 0 under 5.

Think: 6 from 8 = 2. Write 2 under 6.

The difference is 209.

They had gone 209 miles.

$$\begin{array}{r} 862 \\ 653 \\ \hline 209 \end{array}$$

10 added in any column is the same as 1 added in the next column to the left.

**Vacation Trips for Betty and Bob**

1. When Betty's family started on their trip, the speedometer read 653 miles. At the end of the first day, the speedometer read 1027 miles. How far had they driven that day?

2. That night they met Bob and his father at the hotel. Bob's father had driven 432 miles that day and Betty's father had driven 374 miles. How much farther had Bob come than Betty?

3. Betty's father had spent \$8.87 for gas and oil. Bob's father had spent \$10.06 for gas and oil. How much more had Bob's father spent for gas and oil than Betty's father?

4. Betty and Bob compared the mileage on their cars. Bob's car showed 9705 miles and Betty's car showed 1027 miles. How many more miles had Bob's car traveled than Betty's?

5. Bob's father planned to drive to Ironwood the next day, 456 miles. Betty's father planned to drive 390 miles to Gladstone. How many more miles would Bob travel next day than Betty?

**Subtraction Exercise**

6. Subtract, and write your answers on paper.

$$\begin{array}{r} 428 \\ 356 \\ \hline \end{array}$$

$$\begin{array}{r} 592 \\ 427 \\ \hline \end{array}$$

$$\begin{array}{r} 330 \\ 249 \\ \hline \end{array}$$

$$\begin{array}{r} 409 \\ 320 \\ \hline \end{array}$$

$$\begin{array}{r} 312 \\ 163 \\ \hline \end{array}$$

$$\begin{array}{r} 600 \\ 289 \\ \hline \end{array}$$

$$\begin{array}{r} 724 \\ 94 \\ \hline \end{array}$$

## KNOWING THAT YOU KNOW

Write the answers on a folded paper.

### Test 1. Easy Subtraction

$\begin{array}{r} 7 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 5 \\ \hline \end{array}$
$\begin{array}{r} 9 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 0 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 7 \\ \hline \end{array}$

### Test 2. Harder Subtraction

$\begin{array}{r} 12 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ 7 \\ \hline \end{array}$
$\begin{array}{r} 14 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ 7 \\ \hline \end{array}$

### Test 3. Watching Units' Column

$\begin{array}{r} 98 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 22 \\ 0 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ 3 \\ \hline \end{array}$
$\begin{array}{r} 54 \\ 2 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ 2 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 66 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ 3 \\ \hline \end{array}$

### Test 4. Two-Figure Numbers

$\begin{array}{r} 86 \\ 84 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ 35 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ 61 \\ \hline \end{array}$	$\begin{array}{r} 99 \\ 90 \\ \hline \end{array}$	$\begin{array}{r} 77 \\ 74 \\ \hline \end{array}$	$\begin{array}{r} 45 \\ 41 \\ \hline \end{array}$	$\begin{array}{r} 28 \\ 20 \\ \hline \end{array}$	$\begin{array}{r} 96 \\ 92 \\ \hline \end{array}$	$\begin{array}{r} 34 \\ 31 \\ \hline \end{array}$
$\begin{array}{r} 42 \\ 27 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ 35 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ 45 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ 61 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ 57 \\ \hline \end{array}$	$\begin{array}{r} 93 \\ 56 \\ \hline \end{array}$	$\begin{array}{r} 31 \\ 27 \\ \hline \end{array}$	$\begin{array}{r} 22 \\ 20 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ 35 \\ \hline \end{array}$

If you made mistakes on any of these tests, work the exercises of the same number on pages 20 and 21. If you made no mistakes, skip pages 20 and 21.

<b>HELPING YOU TO KNOW</b>
----------------------------

See how quickly you can write the answers on a folded paper.

**Exercise 1. Easy Subtraction**

$\begin{array}{r} 9 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 2 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 5 \\ \hline \end{array}$
$\begin{array}{r} 9 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 0 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 5 \\ \hline \end{array}$

**Exercise 2. Harder Subtraction**

$\begin{array}{r} 10 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ 5 \\ \hline \end{array}$
$\begin{array}{r} 13 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ 8 \\ \hline \end{array}$

**Exercise 3. Watching Units' Column**

$\begin{array}{r} 22 \\ 0 \\ \hline \end{array}$	$\begin{array}{r} 88 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 98 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ 3 \\ \hline \end{array}$
$\begin{array}{r} 29 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 66 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ 2 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ 2 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ 4 \\ \hline \end{array}$

**Exercise 4. Two-Figure Numbers**

$\begin{array}{r} 28 \\ 20 \\ \hline \end{array}$	$\begin{array}{r} 99 \\ 90 \\ \hline \end{array}$	$\begin{array}{r} 34 \\ 31 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ 84 \\ \hline \end{array}$	$\begin{array}{r} 96 \\ 92 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ 35 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ 61 \\ \hline \end{array}$	$\begin{array}{r} 45 \\ 41 \\ \hline \end{array}$	$\begin{array}{r} 77 \\ 74 \\ \hline \end{array}$
$\begin{array}{r} 89 \\ 57 \\ \hline \end{array}$	$\begin{array}{r} 31 \\ 27 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ 27 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ 35 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ 45 \\ \hline \end{array}$	$\begin{array}{r} 22 \\ 20 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ 35 \\ \hline \end{array}$	$\begin{array}{r} 93 \\ 56 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ 61 \\ \hline \end{array}$

## HELPING YOU TO KNOW

See how quickly you can write the answers on a paper.

## Exercise 1. Easy Subtraction

$\begin{array}{r} 9 \\ 4 \end{array}$	$\begin{array}{r} 7 \\ 5 \end{array}$	$\begin{array}{r} 6 \\ 2 \end{array}$	$\begin{array}{r} 8 \\ 7 \end{array}$	$\begin{array}{r} 5 \\ 3 \end{array}$	$\begin{array}{r} 7 \\ 6 \end{array}$	$\begin{array}{r} 9 \\ 3 \end{array}$	$\begin{array}{r} 8 \\ 5 \end{array}$	$\begin{array}{r} 6 \\ 0 \end{array}$
---------------------------------------	---------------------------------------	---------------------------------------	---------------------------------------	---------------------------------------	---------------------------------------	---------------------------------------	---------------------------------------	---------------------------------------

## Exercise 2. Harder Subtraction

$11 - 5 =$	$13 - 6 =$	$12 - 7 =$	$10 - 8 =$
$14 - 9 =$	$16 - 7 =$	$14 - 6 =$	$13 - 7 =$
$12 - 4 =$	$17 - 9 =$	$16 - 9 =$	$15 - 8 =$
$10 - 6 =$	$15 - 6 =$	$11 - 7 =$	$16 - 7 =$

$\begin{array}{r} 13 \\ 6 \end{array}$	$\begin{array}{r} 14 \\ 8 \end{array}$	$\begin{array}{r} 15 \\ 7 \end{array}$	$\begin{array}{r} 12 \\ 3 \end{array}$	$\begin{array}{r} 11 \\ 9 \end{array}$	$\begin{array}{r} 14 \\ 5 \end{array}$	$\begin{array}{r} 15 \\ 9 \end{array}$	$\begin{array}{r} 12 \\ 5 \end{array}$	$\begin{array}{r} 16 \\ 8 \end{array}$
--	--	--	--	--	--	--	--	--

## Exercise 3. Watching Units' Column

Subtract 5 from each of these numbers.

27	46	59	78	66	95	77	38	69
----	----	----	----	----	----	----	----	----

Now subtract 4 from each of the above numbers.

## Exercise 4. Two-Figure Numbers

$\begin{array}{r} 49 \\ 23 \end{array}$	$\begin{array}{r} 65 \\ 38 \end{array}$	$\begin{array}{r} 79 \\ 41 \end{array}$	$\begin{array}{r} 80 \\ 20 \end{array}$	$\begin{array}{r} 90 \\ 55 \end{array}$	$\begin{array}{r} 78 \\ 38 \end{array}$	$\begin{array}{r} 96 \\ 49 \end{array}$	$\begin{array}{r} 88 \\ 47 \end{array}$
$\begin{array}{r} 76 \\ 35 \end{array}$	$\begin{array}{r} 44 \\ 10 \end{array}$	$\begin{array}{r} 82 \\ 35 \end{array}$	$\begin{array}{r} 76 \\ 41 \end{array}$	$\begin{array}{r} 53 \\ 37 \end{array}$	$\begin{array}{r} 69 \\ 26 \end{array}$	$\begin{array}{r} 70 \\ 26 \end{array}$	$\begin{array}{r} 90 \\ 70 \end{array}$

**THE GOAL**

For the pupils who made no mistakes on page 19.

On your paper write the numbers 1, 2, 3, 4.

Read problem 1 and think if you should add or subtract to solve it. If you should add, write A under 1 on your paper. If you should subtract, write S. Do the same with each problem. Then solve the problems.

1. Carol has read 7 stories in magazines at home. The stories have these numbers of pages: 18, 14, 6, 23, 30, 9, and 19. How many pages are in these seven stories?

2. In 1930 the census gave the population of St. Louis as 821,960, and that of Baltimore as 804,874. How can Richard find which of these two cities was larger, and how much larger?

3. Last summer Claire visited a coast guard station on the Atlantic Coast. She learned that in 5 years the United States Coast Guard at all its stations had saved the lives of these numbers of persons: 5627, 6004, 4375, 3983, and 3313. How many lives did the coast guards save in the five years?

4. Look in problem 3 and find how many more lives were saved in the second year than in the fifth year of the five-year period.



## Playing School

1. Jean and Ann were playing school. Ann said, "There are 36 children in our room, and 22 of them are girls. How many are boys?"

Jean subtracted 22 from 36.

$$\begin{array}{r} 36 \\ 22 \\ \hline 14 \end{array}$$

She said, "The remainder is 14. There are 14 boys in our school."

Ann asked Jean to check the subtraction.

Jean said, "I add the boys and the girls.

$$22 + 14 = 36. \quad 14 \text{ is right.}''$$

To check subtraction, add the answer and the number subtracted. Their sum should be the other number.

Find the answer in each problem below. Check.

2. Ann said, "We have 96 books on the shelves. Take away 17. How many books are left?"

3. Then Jean was teacher. She said, "There are 90 seats in our school lunchroom. Sixty-five pupils came in. How many more can find seats?"

See if you can write the answers on a folded paper in 3 minutes. Subtract and check:

- |    |   |   |   |   |   |   |  |   |
|----|---|---|---|---|---|---|--|---|
| 1. | $\begin{array}{r} 48 \\ 17 \\ \hline \end{array}$ | $\begin{array}{r} 97 \\ 62 \\ \hline \end{array}$ | $\begin{array}{r} 66 \\ 10 \\ \hline \end{array}$ | $\begin{array}{r} 89 \\ 34 \\ \hline \end{array}$ | $\begin{array}{r} 75 \\ 64 \\ \hline \end{array}$ | $\begin{array}{r} 49 \\ 28 \\ \hline \end{array}$ | $\begin{array}{r} 28 \\ 4 \\ \hline \end{array}$ | $\begin{array}{r} 55 \\ 24 \\ \hline \end{array}$ |
| 2. | $\begin{array}{r} 78 \\ 42 \\ \hline \end{array}$ | $\begin{array}{r} 94 \\ 21 \\ \hline \end{array}$ | $\begin{array}{r} 46 \\ 35 \\ \hline \end{array}$ | $\begin{array}{r} 69 \\ 3 \\ \hline \end{array}$  | $\begin{array}{r} 38 \\ 20 \\ \hline \end{array}$ | $\begin{array}{r} 86 \\ 64 \\ \hline \end{array}$ | $\begin{array}{r} 85 \\ 6 \\ \hline \end{array}$ | $\begin{array}{r} 50 \\ 4 \\ \hline \end{array}$  |
| 3. | $\begin{array}{r} 71 \\ 3 \\ \hline \end{array}$  | $\begin{array}{r} 44 \\ 8 \\ \hline \end{array}$  | $\begin{array}{r} 93 \\ 7 \\ \hline \end{array}$  | $\begin{array}{r} 26 \\ 9 \\ \hline \end{array}$  | $\begin{array}{r} 54 \\ 6 \\ \hline \end{array}$  | $\begin{array}{r} 62 \\ 3 \\ \hline \end{array}$  | $\begin{array}{r} 75 \\ 7 \\ \hline \end{array}$ | $\begin{array}{r} 61 \\ 9 \\ \hline \end{array}$  |
| 4. | $\begin{array}{r} 24 \\ 5 \\ \hline \end{array}$  | $\begin{array}{r} 58 \\ 9 \\ \hline \end{array}$  | $\begin{array}{r} 82 \\ 6 \\ \hline \end{array}$  | $\begin{array}{r} 60 \\ 8 \\ \hline \end{array}$  | $\begin{array}{r} 75 \\ 5 \\ \hline \end{array}$  | $\begin{array}{r} 31 \\ 7 \\ \hline \end{array}$  | $\begin{array}{r} 47 \\ 8 \\ \hline \end{array}$ | $\begin{array}{r} 83 \\ 4 \\ \hline \end{array}$  |

Can you write the answers to these examples in 5 minutes? Subtract and check:

- |    |   |   |   |   |   |   |   |   |
|----|---|---|---|---|---|---|---|---|
| 5. | $\begin{array}{r} 36 \\ 28 \\ \hline \end{array}$   | $\begin{array}{r} 21 \\ 14 \\ \hline \end{array}$   | $\begin{array}{r} 50 \\ 35 \\ \hline \end{array}$   | $\begin{array}{r} 62 \\ 38 \\ \hline \end{array}$   | $\begin{array}{r} 43 \\ 26 \\ \hline \end{array}$   | $\begin{array}{r} 76 \\ 37 \\ \hline \end{array}$   | $\begin{array}{r} 84 \\ 66 \\ \hline \end{array}$ | $\begin{array}{r} 95 \\ 27 \\ \hline \end{array}$ |
| 6. | $\begin{array}{r} 899 \\ 247 \\ \hline \end{array}$ | $\begin{array}{r} 798 \\ 374 \\ \hline \end{array}$ | $\begin{array}{r} 658 \\ 231 \\ \hline \end{array}$ | $\begin{array}{r} 785 \\ 273 \\ \hline \end{array}$ | $\begin{array}{r} 583 \\ 261 \\ \hline \end{array}$ | $\begin{array}{r} 695 \\ 470 \\ \hline \end{array}$ |   |   |
| 7. | $\begin{array}{r} 345 \\ 117 \\ \hline \end{array}$ | $\begin{array}{r} 891 \\ 354 \\ \hline \end{array}$ | $\begin{array}{r} 624 \\ 416 \\ \hline \end{array}$ | $\begin{array}{r} 937 \\ 618 \\ \hline \end{array}$ | $\begin{array}{r} 388 \\ 239 \\ \hline \end{array}$ | $\begin{array}{r} 492 \\ 348 \\ \hline \end{array}$ |   |   |
| 8. | $\begin{array}{r} 685 \\ 395 \\ \hline \end{array}$ | $\begin{array}{r} 377 \\ 185 \\ \hline \end{array}$ | $\begin{array}{r} 832 \\ 461 \\ \hline \end{array}$ | $\begin{array}{r} 936 \\ 540 \\ \hline \end{array}$ | $\begin{array}{r} 764 \\ 323 \\ \hline \end{array}$ | $\begin{array}{r} 527 \\ 384 \\ \hline \end{array}$ |   |   |
| 9. | $\begin{array}{r} 649 \\ 412 \\ \hline \end{array}$ | $\begin{array}{r} 455 \\ 207 \\ \hline \end{array}$ | $\begin{array}{r} 846 \\ 256 \\ \hline \end{array}$ | $\begin{array}{r} 484 \\ 192 \\ \hline \end{array}$ | $\begin{array}{r} 573 \\ 228 \\ \hline \end{array}$ | $\begin{array}{r} 984 \\ 321 \\ \hline \end{array}$ |   |   |

1. Read and say the remainders quickly.

$49 - 46 =$	$24 - 20 =$	$24$	$87$	$10$	$36$
$87 - 84 =$	$36 - 31 =$	<u>4</u>	<u>36</u>	<u>7</u>	<u>22</u>

2. In subtraction, (a) the number from which we subtract is the **minuend**.

(b) The number subtracted or the number taken away is the **subtrahend**.

465	Minuend
263	Subtrahend
<u>202</u>	Remainder or Difference

(c) The answer is the **remainder** or **difference**.

3. Name the minuend and subtrahend in each of the examples in exercise 1.

4. Read these examples and say the remainders.

11	17	13	16	14	19	26	87	64
<u>9</u>	<u>8</u>	<u>5</u>	<u>10</u>	<u>8</u>	<u>10</u>	<u>23</u>	<u>43</u>	<u>52</u>

5. Copy these examples and write the remainders. Check your answers.

921	260	828	705	693	530	732
<u>497</u>	<u>85</u>	<u>350</u>	<u>675</u>	<u>578</u>	<u>166</u>	<u>289</u>
800	525	743	915	650	878	905
<u>275</u>	<u>337</u>	<u>584</u>	<u>607</u>	<u>493</u>	<u>697</u>	<u>426</u>

6. Look at each example in exercise 5 and

(a) Name the minuend.

(b) Name the subtrahend.

(c) Name the remainder or difference.

## 26 Problems That Are Solved by Subtraction

### How We Use Subtraction

1. Martha had to make 22 paper dolls for her party. She gave 18 of the dolls to the girls at the party. How many did she have left?

2. George has 55 cents. He wants to buy a watch that costs a dollar. How much more money does he need to buy the watch?

3. Lucy's mother baked 36 cookies. She gave 12 of them to Lucy's grandmother. How many did she have left?

4. Dick is 57 inches tall and Arthur is 52 inches tall. How much taller is Dick than Arthur?

5. Dean's father has 95 letters to mail. He has 40 stamps. How many more stamps does he need?

6. Tuesday the fourth grade boys put \$2.65 in the bank, and the girls put in \$2.15. What is the difference between the amounts put in by the boys and by the girls?

In the third grade you learned that we subtract

- (a) To find how many are left when one number is taken from another.
- (b) To find the difference between two numbers.
- (c) To find how many more are needed.

Point out a problem on this page in which you need to find how many are left, a problem to find how many more are needed, and one to find the difference.

Give the remainders without using a pencil.

1. Subtract 6 from each of these numbers:

13    17    14    11    16    10    25    38    12

2. Subtract 9 from each of these numbers:

12    27    18    25    36    10    19    34    21

3. Subtract 7 from each of these numbers:

15    24    32    21    10    16    43    29    18

4. Subtract 8 from each of these numbers:

19    26    41    30    17    25    32    48    33

5. Copy and subtract:

\$5.23 from \$8.00                      \$4.29 from \$7.00

\$3.25 from \$6.75                      \$ .89 from \$3.00

\$3.08 from \$5.85                      \$ .72 from \$1.91

\$2.95 from \$4.30                      \$ .67 from \$2.54

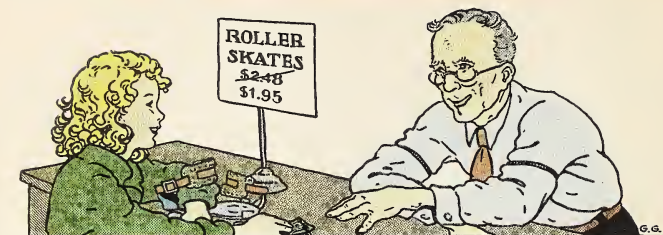
Write your answers to these examples on a folded paper. Subtract and check.

6.     $\begin{array}{r} 921 \\ 497 \\ \hline \end{array}$      $\begin{array}{r} 280 \\ 86 \\ \hline \end{array}$      $\begin{array}{r} 828 \\ 350 \\ \hline \end{array}$      $\begin{array}{r} 725 \\ 675 \\ \hline \end{array}$      $\begin{array}{r} 800 \\ 400 \\ \hline \end{array}$      $\begin{array}{r} 500 \\ 279 \\ \hline \end{array}$      $\begin{array}{r} 593 \\ 578 \\ \hline \end{array}$

7.     $\begin{array}{r} 100 \\ 25 \\ \hline \end{array}$      $\begin{array}{r} 563 \\ 156 \\ \hline \end{array}$      $\begin{array}{r} 865 \\ 276 \\ \hline \end{array}$      $\begin{array}{r} 348 \\ 89 \\ \hline \end{array}$      $\begin{array}{r} 653 \\ 271 \\ \hline \end{array}$      $\begin{array}{r} 732 \\ 289 \\ \hline \end{array}$      $\begin{array}{r} 153 \\ 124 \\ \hline \end{array}$

8.     $\begin{array}{r} \$3.21 \\ 1.98 \\ \hline \end{array}$      $\begin{array}{r} \$8.00 \\ 2.75 \\ \hline \end{array}$      $\begin{array}{r} \$5.25 \\ 1.10 \\ \hline \end{array}$      $\begin{array}{r} \$8.32 \\ 4.89 \\ \hline \end{array}$      $\begin{array}{r} \$7.43 \\ 5.84 \\ \hline \end{array}$      $\begin{array}{r} \$4.50 \\ 4.13 \\ \hline \end{array}$

9.     $\begin{array}{r} \$1.00 \\ .21 \\ \hline \end{array}$      $\begin{array}{r} \$2.25 \\ .72 \\ \hline \end{array}$      $\begin{array}{r} \$8.78 \\ 6.97 \\ \hline \end{array}$      $\begin{array}{r} \$7.29 \\ 4.66 \\ \hline \end{array}$      $\begin{array}{r} \$5.30 \\ 3.07 \\ \hline \end{array}$      $\begin{array}{r} \$3.49 \\ 1.98 \\ \hline \end{array}$



Read each problem carefully. Tell whether you should add or subtract to get the answer. Tell why. Then answer the question in the problem.

1. Kate bought a pair of roller skates on sale for \$1.95. The old price was \$2.48. How much did she save?

2. Carol's quilt will have 728 pieces in it. She has cut and sewed 684 pieces. How many more pieces does she need?

3. In one week Tom brought in from the nests in his henhouse 8 eggs, 18 eggs, 22, 9, 10, 7, and 17. How many eggs did he get that week?

4. Joe wanted a suit that was marked \$20. At a sale he bought the suit for \$2.55 less than the old price. How much did the suit cost Joe?

5. There are 689 children in the Ross school and 488 children in the Clark school. How many children are in these two schools?

## CHAPTER 3

### USING ADDITION AND SUBTRACTION

#### Adding United States Money

#### Buying Clothing

1. Mrs. West bought clothing for her family at the Ames Company store.

For Patsy		For Jim		For Herself	
Dresses	\$5.00	Bathrobe	\$2.39	Shoes	\$4.98
Shoes	2.89	Shoes	3.65	Blouse	1.75
Hose	1.00	Golf socks	1.25	Hose	.89

Find how much Mrs. West spent

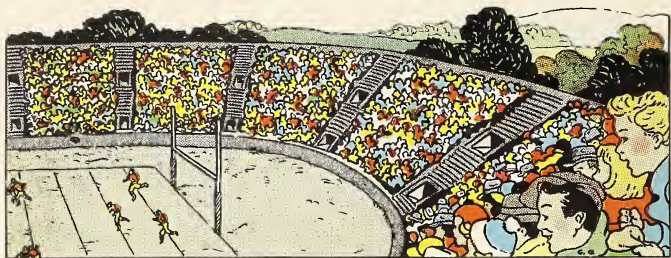
- (a) For each member of her family.
- (b) For all that she bought at the store.

2. How much did Mrs. York spend for all these?

For Tommy		For Mr. York		For Herself	
Sweater	\$2.19	Ties	\$1.50	Dress	\$8.98
Cap	.35	Gloves	.98	Scarf	.69
Mittens	.23	Sweater	3.85	Belt	.37

When money numbers are to be added or subtracted, a decimal point must be placed in the answer under the decimal points in the numbers added or subtracted. The sign \$ must be placed before the first number and before the answer.

## 30 Addition and Subtraction of Large Numbers



### The Stadium

1. John's uncle told him the big stadium could seat all the people from Hanover, Middletown, and White Hill. What must John know to find how many people the stadium will seat?

2. John found the population of Hanover is 14,526; of Middletown, 22,194; and White Hill, 38,280. How many people will the stadium seat?

3. When the stadium has 53,650 people in it, how many seats will be left for other people?

4. The population of Watertown is 32,205; of Lakeland, 18,554; of Huntington, 24,591. Could the stadium seat all these people at one time?

5. Make a problem about the number of people the stadium will seat and the number of people living in some city in your state.

Numbers of five or six figures are added and subtracted in the same way as smaller numbers.

## KNOWING THAT YOU KNOW

### Addition

Add down and write the sums on a folded paper. Then check your answers by adding up. Try to finish each row in 3 minutes.

- |    |                               |                               |                               |                              |                               |                               |                          |
|----|-------------------------------|-------------------------------|-------------------------------|------------------------------|-------------------------------|-------------------------------|--------------------------|
| 1. | 290<br>134<br><u>299</u>      | 339<br>286<br><u>108</u>      | 420<br>79<br><u>375</u>       | 160<br>508<br><u>67</u>      | 34<br>203<br><u>290</u>       | 356<br>89<br><u>134</u>       | 166<br>508<br><u>169</u> |
| 2. | \$3.50<br>6.74<br><u>7.86</u> | \$9.00<br>6.25<br><u>3.45</u> | \$5.27<br>.82<br><u>5.24</u>  | \$ .75<br>2.25<br><u>.48</u> | \$9.76<br>5.37<br><u>4.85</u> | \$1.89<br>2.79<br><u>1.84</u> |                          |
| 3. | \$ .84<br>.97<br><u>.72</u>   | \$2.39<br>1.49<br><u>.76</u>  | \$1.56<br>2.78<br><u>2.49</u> | \$2.25<br>1.40<br><u>.75</u> | \$1.99<br>2.67<br><u>1.40</u> | \$ .20<br>1.08<br><u>2.44</u> |                          |

### Subtraction

Write the remainders on a folded paper. Then check. Try to finish each row in 3 minutes.

- |    |                       |                       |                       |                       |                       |                       |                   |
|----|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------|
| 4. | 68<br><u>15</u>       | 94<br><u>50</u>       | 50<br><u>25</u>       | 83<br><u>45</u>       | 98<br><u>72</u>       | 64<br><u>16</u>       | 65<br><u>37</u>   |
| 5. | 100<br><u>47</u>      | 675<br><u>176</u>     | 162<br><u>94</u>      | 248<br><u>89</u>      | 886<br><u>658</u>     | 575<br><u>277</u>     | 623<br><u>450</u> |
| 6. | \$5.70<br><u>3.63</u> | \$8.00<br><u>7.21</u> | \$2.58<br><u>1.68</u> | \$5.00<br><u>3.98</u> | \$7.92<br><u>5.04</u> | \$6.76<br><u>3.98</u> |                   |

<b>HELPING YOU TO KNOW</b>
----------------------------

If you made a mistake in any test on page 31, practice the exercises of the same number on this page and on page 33. Check the answers.

### Addition

1.	$\begin{array}{r} 420 \\ 79 \\ \hline 375 \end{array}$	$\begin{array}{r} 34 \\ 203 \\ \hline 290 \end{array}$	$\begin{array}{r} 166 \\ 508 \\ \hline 169 \end{array}$	$\begin{array}{r} 290 \\ 134 \\ \hline 299 \end{array}$	$\begin{array}{r} 356 \\ 89 \\ \hline 134 \end{array}$	$\begin{array}{r} 160 \\ 508 \\ \hline 67 \end{array}$	$\begin{array}{r} 339 \\ 286 \\ \hline 108 \end{array}$
2.	$\begin{array}{r} \$ .75 \\ 2.25 \\ \hline .48 \end{array}$	$\begin{array}{r} \$5.27 \\ .82 \\ \hline 5.24 \end{array}$	$\begin{array}{r} \$3.50 \\ 6.74 \\ \hline 7.86 \end{array}$	$\begin{array}{r} \$1.89 \\ 2.79 \\ \hline 1.84 \end{array}$	$\begin{array}{r} \$9.00 \\ 6.25 \\ \hline 3.45 \end{array}$	$\begin{array}{r} \$9.76 \\ 5.37 \\ \hline 4.85 \end{array}$	
3.	$\begin{array}{r} \$1.56 \\ 2.78 \\ \hline 2.49 \end{array}$	$\begin{array}{r} \$1.99 \\ 2.67 \\ \hline 1.40 \end{array}$	$\begin{array}{r} \$2.39 \\ 1.49 \\ \hline .76 \end{array}$	$\begin{array}{r} \$2.25 \\ 1.40 \\ \hline .75 \end{array}$	$\begin{array}{r} \$ .20 \\ 1.08 \\ \hline 2.44 \end{array}$	$\begin{array}{r} \$ .84 \\ .97 \\ \hline .72 \end{array}$	

### Subtraction

4.	$\begin{array}{r} 50 \\ 25 \\ \hline \end{array}$	$\begin{array}{r} 98 \\ 72 \\ \hline \end{array}$	$\begin{array}{r} 94 \\ 50 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ 15 \\ \hline \end{array}$	$\begin{array}{r} 65 \\ 37 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ 16 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ 45 \\ \hline \end{array}$
5.	$\begin{array}{r} 623 \\ 450 \\ \hline \end{array}$	$\begin{array}{r} 248 \\ 89 \\ \hline \end{array}$	$\begin{array}{r} 100 \\ 47 \\ \hline \end{array}$	$\begin{array}{r} 575 \\ 277 \\ \hline \end{array}$	$\begin{array}{r} 162 \\ 94 \\ \hline \end{array}$	$\begin{array}{r} 886 \\ 658 \\ \hline \end{array}$	$\begin{array}{r} 675 \\ 176 \\ \hline \end{array}$
6.	$\begin{array}{r} \$5.00 \\ 3.98 \\ \hline \end{array}$	$\begin{array}{r} \$6.76 \\ 3.98 \\ \hline \end{array}$	$\begin{array}{r} \$5.70 \\ 3.63 \\ \hline \end{array}$	$\begin{array}{r} \$2.58 \\ 1.68 \\ \hline \end{array}$	$\begin{array}{r} \$8.00 \\ 7.21 \\ \hline \end{array}$	$\begin{array}{r} \$7.92 \\ 5.04 \\ \hline \end{array}$	

**HELPING YOU TO KNOW**

This page gives practice on the hard examples you have had in adding and subtracting numbers. If you made a mistake in any test on page 31, practice the exercise of the same number on this page. Check the answers.

**Addition**

- |    |  |   |  |   |  |   |   |   |   |
|----|--|---|--|---|--|---|---|---|---|
| 1. | $\begin{array}{r} 28 \\ 35 \\ \hline \end{array}$              | $\begin{array}{r} 43 \\ 64 \\ \hline \end{array}$               | $\begin{array}{r} 25 \\ 69 \\ \hline \end{array}$              | $\begin{array}{r} 32 \\ 73 \\ \hline \end{array}$               | $\begin{array}{r} 66 \\ 93 \\ \hline \end{array}$              | $\begin{array}{r} 57 \\ 69 \\ \hline \end{array}$               | $\begin{array}{r} 92 \\ 70 \\ \hline \end{array}$   | $\begin{array}{r} 74 \\ 23 \\ \hline \end{array}$ | $\begin{array}{r} 97 \\ 65 \\ \hline \end{array}$ |
| 2. | $\begin{array}{r} 768 \\ 125 \\ \hline \end{array}$            | $\begin{array}{r} 388 \\ 264 \\ \hline \end{array}$             | $\begin{array}{r} 939 \\ 476 \\ \hline \end{array}$            | $\begin{array}{r} 728 \\ 172 \\ \hline \end{array}$             | $\begin{array}{r} 806 \\ 849 \\ \hline \end{array}$            | $\begin{array}{r} 899 \\ 101 \\ \hline \end{array}$             | $\begin{array}{r} 455 \\ 905 \\ \hline \end{array}$ |   |   |
| 3. | $\begin{array}{r} \$9.34 \\ 4.79 \\ .95 \\ \hline \end{array}$ | $\begin{array}{r} \$4.08 \\ 6.50 \\ 3.07 \\ \hline \end{array}$ | $\begin{array}{r} \$9.70 \\ 3.00 \\ .47 \\ \hline \end{array}$ | $\begin{array}{r} \$4.76 \\ 9.50 \\ 3.90 \\ \hline \end{array}$ | $\begin{array}{r} \$4.06 \\ .85 \\ 3.95 \\ \hline \end{array}$ | $\begin{array}{r} \$7.06 \\ 4.81 \\ 2.69 \\ \hline \end{array}$ |   |   |   |

**Subtraction**

- |    |   |   |   |   |   |   |  |   |   |
|----|---|---|---|---|---|---|--|---|---|
| 4. | $\begin{array}{r} 87 \\ 57 \\ \hline \end{array}$       | $\begin{array}{r} 70 \\ 15 \\ \hline \end{array}$         | $\begin{array}{r} 56 \\ 30 \\ \hline \end{array}$         | $\begin{array}{r} 70 \\ 40 \\ \hline \end{array}$         | $\begin{array}{r} 96 \\ 37 \\ \hline \end{array}$         | $\begin{array}{r} 23 \\ 16 \\ \hline \end{array}$   | $\begin{array}{r} 70 \\ 8 \\ \hline \end{array}$   | $\begin{array}{r} 42 \\ 23 \\ \hline \end{array}$ | $\begin{array}{r} 51 \\ 27 \\ \hline \end{array}$ |
| 5. | $\begin{array}{r} 985 \\ 644 \\ \hline \end{array}$     | $\begin{array}{r} 768 \\ 439 \\ \hline \end{array}$       | $\begin{array}{r} 649 \\ 384 \\ \hline \end{array}$       | $\begin{array}{r} 865 \\ 569 \\ \hline \end{array}$       | $\begin{array}{r} 352 \\ 264 \\ \hline \end{array}$       | $\begin{array}{r} 653 \\ 445 \\ \hline \end{array}$ | $\begin{array}{r} 101 \\ 93 \\ \hline \end{array}$ |   |   |
| 6. | $\begin{array}{r} \$8.70 \\ 5.45 \\ \hline \end{array}$ | $\begin{array}{r} \$67.99 \\ 58.02 \\ \hline \end{array}$ | $\begin{array}{r} \$74.25 \\ 60.26 \\ \hline \end{array}$ | $\begin{array}{r} \$30.05 \\ 29.18 \\ \hline \end{array}$ | $\begin{array}{r} \$45.85 \\ 17.97 \\ \hline \end{array}$ |   |  |   |   |

## 34 Thinking Whether to Add or Subtract

### THE GOAL

For the pupils who made no mistakes on page 31.

On your paper write the numbers 1, 2, 3, 4, 5.

Read problem 1 and think if you should add or subtract to solve it. If you should add, write A under 1 on your paper. If you should subtract, write S. Do the same with each problem. Then supply the number that you need in each problem, and solve the problem.

1. Tom saw a suit of clothes marked \$18.50. He has only \$\_\_\_\_.00 to pay for it. How much more money does Tom need to buy the suit?

2. Rose paid 24¢ for street car fare, 38¢ for her language book, 8¢ for pencils, 30¢ for movies, and \_\_\_\_¢ for candy. How much did all these things cost her?

3. George weighs 87 pounds; Ralph weighs 76; Clark, \_\_\_\_; Bill, 92; Sam, 105; and Roger, 94. How much do all these boys together weigh?

4. When Joy and her mother started on their vacation, they had \$95.75 with which to pay their expenses. Before they returned they needed \$\_\_\_\_ more. How much was the amount they needed altogether for their expenses?

5. How much will Carl have left from \$5 if he buys a sweater for \$\_\_\_\_?

## Frank, Our Weather Man

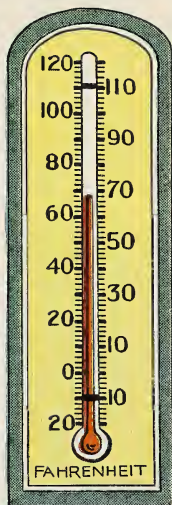
Every morning when Frank comes into the schoolroom he looks at the thermometer. If he goes to his seat, the children know the thermometer reads about 68 degrees. That is how warm the room should be.

If Frank opens a window or turns off the heat, the children know the thermometer shows more than 68 degrees. If he closes a window, that shows the heat is below 68.

1. Thermometers measure heat, or **temperature**. What temperature is shown on the thermometer in the picture? That number tells how warm the air is.

2. To read the thermometer, start at zero and count above or below zero. Each black line shows 2 degrees. Read the first black line above zero, 2 degrees above zero. It is written in this way,  $2^{\circ}$ . The little sign by the 2 means degrees.

3. The first black line below zero is read, 2 degrees below zero. It is written  $-2^{\circ}$ . The sign before the number shows that the temperature is below zero.

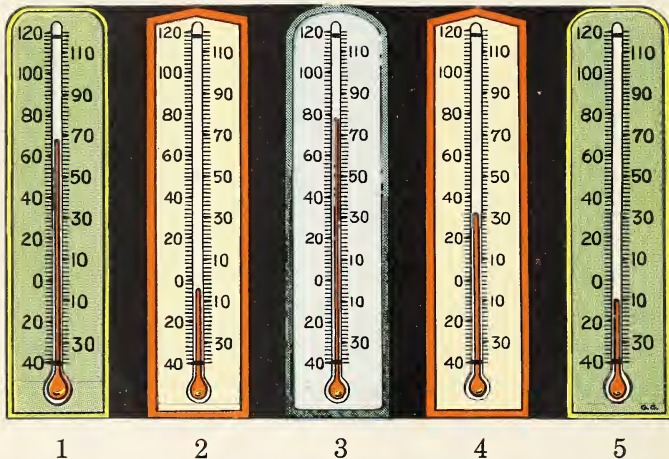


## Reading the Thermometer

When the liquid in a thermometer gets warmer, it rises. When it gets colder, it goes down.

1. Use a thermometer to find the temperature of your room. Then stand the thermometer in cold water for a few minutes. What is the temperature of the water?

2. Read each of these thermometers.



3. Which thermometers are below zero?

The freezing point is 32° above zero. Which thermometer is at the freezing point?

Which one is at 68°? Which one is above 68°? Which ones are below 68°?

1. Draw a thermometer and mark it from 10° below zero to 80° above zero. Show the liquid at freezing. Make a heavy mark at room temperature and another at zero.

## Jack's Weather Record

Jack kept a weather record at home for one week. It is shown below.

Weather Record

S	M	T	W	T	F	S
72°	68°	69°	78°	82°	85°	89°

2. Read Jack's weather record this way, Sunday 72°, Monday 68°.

3. What day was the warmest? The coolest?

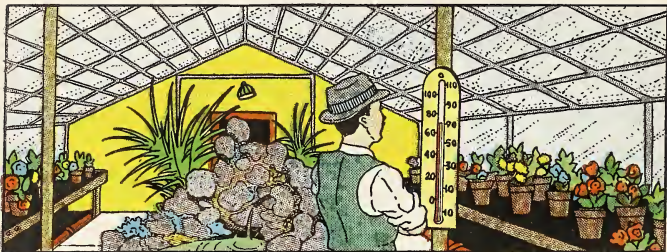
4. How much cooler was it on Tuesday than it was on Saturday?

5. On what day did the thermometer show nearly the correct room temperature?

6. Keep a weather record like this and show the temperature three times a day for a week.

Time	S	M	T	W	T	F	S
8							
12							
6							

7. Read your weather record to the class.



### Using the Thermometer

1. The temperature in the Clark greenhouse is kept at  $72^{\circ}$ . One day it was  $45^{\circ}$  outdoors. How much colder was it outdoors than in the greenhouse?
2. The flowers for sale are kept at a room temperature of  $54^{\circ}$ . Growing plants are kept at  $72^{\circ}$ . Which room is colder? How much?
3. One day in summer the temperature outdoors was  $104^{\circ}$ . How far above freezing point was it? Remember, freezing point is  $32^{\circ}$  above zero.
4. In very cold weather the temperature may go far below zero. If it is  $32^{\circ}$  below zero, how far is that below freezing point?
5. Mother says water boils at  $212^{\circ}$  above zero. How many degrees is that above freezing?
6. Read the weather report in a newspaper. What was the difference in temperature between Chicago and Los Angeles? New York City and Miami?

## Minutes and Hours

Tell what words are left out and answer.

1. The long hand on the clock shows the \_\_\_\_\_. It is called the \_\_\_\_\_ hand.

2. The short hand shows the \_\_\_\_\_. This hand is called the \_\_\_\_\_ hand.



3. How long does it take the hour hand to move from one number to the next on the clock face?

4. How far does the minute hand move while the hour hand moves from one number to the next?

5. Count the five-minute spaces on the clock face. Count by 5's from 5 to 60. Point to the places on the clock face as you count.

6. What time is shown on the clock when the hands are as follows:

- (a) Hour hand between 8 and 9, minute hand at 3?
- (b) Hour hand between 9 and 10, minute hand at 4?
- (c) Hour hand between 4 and 5, minute hand at 9?
- (d) Hour hand between 5 and 6, minute hand at 10?
- (e) Hour hand between 1 and 2, minute hand at 6?

## 40 Using Arithmetic in Measuring Time

### Minutes, Hours, and Days

1. We write **half past one** in figures, **1:30**. Copy this exercise. Use figures to fill blanks.

- (a) half past seven \_\_\_\_\_ (c) half past five \_\_\_\_\_  
(b) half past nine \_\_\_\_\_ (d) half past ten \_\_\_\_\_

2. Draw a clock face. Make the minute hand point to 3, and the hour hand a little past 12. The time on your picture is 15 minutes past \_\_\_\_\_.

3. A fifteen-minute period is a quarter of an hour. Why?

4. Draw pictures of two clock faces. On one place the hands to show half past 12. On the other, show a quarter to one.

5. Write in figures: (a) a quarter past 2; (b) half past 2; (c) 45 minutes past 2.

6. There are \_\_\_\_\_ hours in a day. Remember, the hour hand moves around the clock face two times in one whole day.

Each day begins at midnight. The time from midnight to noon is called morning or forenoon. It may be written **A.M.** The time from noon to midnight is called afternoon and evening. It may be written **P.M.**

7. Lucy's family traveled from 7 A.M. to 7 P.M. How many hours were they on the trip?



## Train Time at Victoria Park

1. Name the things you usually are doing at these hours: 8:00 A.M.; 10:30 A.M.; 12:15 P.M.; 8:30 P.M.; 2:00 A.M.

2. Look at the time card below and tell:

- The time each train leaves Victoria Park.
- The time before noon that a train stops at Silverdale.
- The time trains stop at Welland.

Stations	Train 43	Train 59	Train 27
	A.M.	P.M.	P.M.
Lv. Victoria Park	5:20	1:45	7:57
Ar. Falls View	5:30	1:58	8:09
“ Welland		3:00	9:10
“ Silverdale	7:00	3:45	9:54
“ Smithville	7:19	4:10	10:15

3. How long does it take train 59 to run from Victoria Park to Welland? to Smithville?

## The Calendar

JANUARY							FEBRUARY							MARCH						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5						1	2						1	2
6	7	8	9	10	11	12	3	4	5	6	7	8	9	3	4	5	6	7	8	9
13	14	15	16	17	18	19	10	11	12	13	14	15	16	10	11	12	13	14	15	16
20	21	22	23	24	25	26	17	18	19	20	21	22	23	17	18	19	20	21	22	23
27	28	29	30	31			24	25	26	27	28			24	25	26	27	28	29	30
APRIL							MAY							JUNE						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6				1	2	3	4							1
7	8	9	10	11	12	13	5	6	7	8	9	10	11	2	3	4	5	6	7	8
14	15	16	17	18	19	20	12	13	14	15	16	17	18	9	10	11	12	13	14	15
21	22	23	24	25	26	27	19	20	21	22	23	24	25	16	17	18	19	20	21	22
28	29	30					26	27	28	29	30	31		23	24	25	26	27	28	29
JULY							AUGUST							SEPTEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6					1	2	3	1	2	3	4	5	6	7
7	8	9	10	11	12	13	4	5	6	7	8	9	10	8	9	10	11	12	13	14
14	15	16	17	18	19	20	11	12	13	14	15	16	17	15	16	17	18	19	20	21
21	22	23	24	25	26	27	18	19	20	21	22	23	24	22	23	24	25	26	27	28
28	29	30	31				25	26	27	28	29	30	31	29	30					
OCTOBER							NOVEMBER							DECEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5						1	2	1	2	3	4	5	6	7
6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14
13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21
20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28
27	28	29	30	31			24	25	26	27	28	29	30	29	30	31				

## Table of Time

60 minutes (min.) = 1 hour (hr.)

24 hours = 1 day

7 days = 1 week (wk.)

12 months (mo.) = 1 year (yr.)

365 days = 1 year

1. Name all the months on the calendar.
2. What months have 31 days each? What months have 30 days each? What month has less than 30 days?
3. Can you tell the class what a leap year is? How many days does February have in a leap year?
4. Look at the calendar. Add to find how many days are in the first six months. How many days are in the second six months? Add the two sums. Does your answer agree with the table of time?
5. How many days after April 30 is June 15? Begin counting with May 1.
6. After July 4 how many more days remain in July? How can you find this answer by subtraction?
7. How many days after Christmas is Washington's birthday? Add aloud: 6 days in December + 31 days in January + \_\_\_\_ days in February = \_\_\_\_ days.  
Get a calendar for this year and a calendar for last year. Use them in finding the answers to the questions below.
8. On what day of the week is Christmas in each of the two calendars you have? Is the day of the week the same?
9. Find your birthday on the two calendars. On what day of the week does it come in each? Why does the day change?

## 44 Adding and Subtracting Large Numbers

Write the sums on a folded paper. Check.

1.	367	475	646	637	228	159
	273	581	928	538	476	895
	724	839	159	342	965	578
	<u>928</u>	<u>353</u>	<u>342</u>	<u>575</u>	<u>734</u>	<u>973</u>

2.	8526	1402	2629	1030	1209
	2879	4693	3852	4362	9975
	<u>3154</u>	<u>6353</u>	<u>4761</u>	<u>7801</u>	<u>4386</u>

3.	\$10.00	\$17.39	\$20.75	\$16.20	\$30.90
	24.37	29.45	16.87	83.95	17.08
	<u>15.04</u>	<u>46.57</u>	<u>82.37</u>	<u>88.69</u>	<u>63.97</u>

4.	31340	20872	57402	80030	82931
	60531	65820	67017	56747	20784
	<u>51764</u>	<u>31619</u>	<u>82931</u>	<u>21980</u>	<u>28246</u>

Write the remainders on a folded paper. Check.

5.	9274	8372	7563	6258	8567
	<u>6537</u>	<u>5986</u>	<u>6079</u>	<u>4909</u>	<u>6574</u>

6.	48365	29671	67034	54360	35718
	<u>46573</u>	<u>10745</u>	<u>56628</u>	<u>28527</u>	<u>26967</u>

7.	\$65.78	\$87.45	\$46.92	\$78.21	\$36.65
	<u>46.99</u>	<u>74.68</u>	<u>35.85</u>	<u>46.75</u>	<u>27.79</u>

8.	\$645.78	\$347.88	\$117.50	\$792.45	\$901.56
	<u>436.09</u>	<u>339.78</u>	<u>106.95</u>	<u>604.78</u>	<u>803.40</u>

## More Drill in Adding and Subtracting 45

### Large Numbers

Keep your columns straight and your decimal points under each other. Copy and add the numbers.

1. \$93.96, \$46.57, \$77.49, \$15.64.

2. \$77.49, \$ 4.45, \$81.36, \$72.68.

3. \$54.45, \$82.37, \$ 9.65, \$ 8.69.

Write these numbers and add:

4. Sixty dollars and eight cents, twenty-six dollars and ninety-four cents, eight dollars and seven cents, ninety dollars and six cents.

5. Eighty-two dollars and ninety-three cents, eighty-seven dollars and forty-two cents, ninety-three dollars and fifteen cents, sixty-four dollars and twenty-seven cents.

Copy and subtract:

6.	8634	3464	9533	9651	6435
	<u>5257</u>	<u>2759</u>	<u>7627</u>	<u>6937</u>	<u>6278</u>

7.	\$775.82	\$436.58	\$697.30	\$706.42	\$748.06
	<u>545.66</u>	<u>247.78</u>	<u>408.65</u>	<u>137.96</u>	<u>398.43</u>

8. Subtract 48576 from 95701; 75267 from 83604.

9. Write and subtract:

(a) Sixty thousand three hundred eighty-four from seventy-six thousand forty-two.

(b) Ten thousand six hundred fifty-nine dollars from twenty-two thousand six hundred dollars.

**KNOWING THAT YOU KNOW**
**Test 1. Adding One-Figure Numbers**

Write your answers on a folded paper.

<u>8</u>	<u>6</u>	<u>9</u>	<u>5</u>	<u>7</u>	<u>8</u>	<u>6</u>	<u>7</u>	<u>5</u>
<u>5</u>	<u>7</u>	<u>4</u>	<u>6</u>	<u>9</u>	<u>4</u>	<u>9</u>	<u>5</u>	<u>3</u>
<u>7</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>6</u>	<u>7</u>	<u>7</u>
<u>8</u>	<u>5</u>	<u>7</u>	<u>9</u>	<u>6</u>	<u>5</u>	<u>4</u>	<u>8</u>	<u>6</u>
<u>6</u>	<u>9</u>	<u>6</u>	<u>5</u>	<u>8</u>	<u>6</u>	<u>7</u>	<u>6</u>	<u>3</u>
<u>7</u>	<u>8</u>	<u>9</u>	<u>6</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>8</u>
<u>5</u>	<u>5</u>	<u>8</u>	<u>7</u>	<u>6</u>	<u>4</u>	<u>4</u>	<u>5</u>	<u>7</u>
<u>7</u>	<u>6</u>	<u>4</u>	<u>6</u>	<u>5</u>	<u>8</u>	<u>7</u>	<u>4</u>	<u>9</u>

**Test 2. Adding Two-Figure Numbers**

<u>47</u>	<u>59</u>	<u>86</u>	<u>77</u>	<u>45</u>	<u>66</u>	<u>59</u>	<u>70</u>
<u>85</u>	<u>47</u>	<u>58</u>	<u>59</u>	<u>64</u>	<u>79</u>	<u>37</u>	<u>58</u>
<u>96</u>	<u>85</u>	<u>29</u>	<u>76</u>	<u>89</u>	<u>68</u>	<u>60</u>	<u>87</u>
<u>38</u>	<u>70</u>	<u>94</u>	<u>47</u>	<u>56</u>	<u>99</u>	<u>87</u>	<u>64</u>

**Test 3. Adding in Harder Examples**

<u>384</u>	<u>875</u>	<u>339</u>	<u>467</u>	<u>987</u>	<u>887</u>	<u>897</u>
<u>977</u>	<u>768</u>	<u>725</u>	<u>384</u>	<u>436</u>	<u>446</u>	<u>609</u>
<u>685</u>	<u>476</u>	<u>578</u>	<u>693</u>	<u>758</u>	<u>908</u>	<u>706</u>

Check. If you made mistakes on any test, work the exercises of the same number on pages 47 and 48. If you made no mistakes, skip pages 47 and 48.

**HELPING YOU TO KNOW**

Find the answers to these examples as quickly as you can, and write your sums on a folded paper. Then check.

**Exercise 1. Adding One-Figure Numbers**

<u>8</u>	<u>7</u>	<u>8</u>	<u>5</u>	<u>9</u>	<u>7</u>	<u>5</u>	<u>6</u>	<u>6</u>
<u>4</u>	<u>5</u>	<u>5</u>	<u>3</u>	<u>4</u>	<u>9</u>	<u>6</u>	<u>7</u>	<u>9</u>
<u>9</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>6</u>	<u>8</u>	<u>7</u>	<u>5</u>	<u>6</u>
<u>6</u>	<u>4</u>	<u>6</u>	<u>8</u>	<u>7</u>	<u>5</u>	<u>8</u>	<u>5</u>	<u>9</u>
<u>3</u>	<u>7</u>	<u>8</u>	<u>6</u>	<u>6</u>	<u>9</u>	<u>6</u>	<u>6</u>	<u>5</u>
<u>8</u>	<u>9</u>	<u>9</u>	<u>7</u>	<u>9</u>	<u>8</u>	<u>9</u>	<u>9</u>	<u>6</u>
<u>7</u>	<u>4</u>	<u>6</u>	<u>5</u>	<u>8</u>	<u>5</u>	<u>5</u>	<u>4</u>	<u>7</u>
<u>9</u>	<u>7</u>	<u>5</u>	<u>7</u>	<u>4</u>	<u>6</u>	<u>4</u>	<u>8</u>	<u>6</u>

**Exercise 2. Adding Two-Figure Numbers**

<u>45</u>	<u>70</u>	<u>66</u>	<u>47</u>	<u>59</u>	<u>77</u>	<u>86</u>	<u>59</u>
<u>64</u>	<u>58</u>	<u>79</u>	<u>85</u>	<u>37</u>	<u>59</u>	<u>58</u>	<u>47</u>
<u>89</u>	<u>87</u>	<u>68</u>	<u>96</u>	<u>60</u>	<u>76</u>	<u>29</u>	<u>85</u>
<u>56</u>	<u>64</u>	<u>99</u>	<u>38</u>	<u>87</u>	<u>47</u>	<u>94</u>	<u>70</u>

**Exercise 3. Adding in Harder Examples**

<u>339</u>	<u>987</u>	<u>384</u>	<u>897</u>	<u>887</u>	<u>467</u>	<u>875</u>
<u>725</u>	<u>436</u>	<u>977</u>	<u>609</u>	<u>446</u>	<u>384</u>	<u>768</u>
<u>578</u>	<u>758</u>	<u>685</u>	<u>706</u>	<u>908</u>	<u>693</u>	<u>476</u>

## HELPING YOU TO KNOW

Find the answers as quickly as you can. Check.

### Exercise 1. Adding One-Figure Numbers

$6+7=$	$8+8=$	$12+5=$	$13+6=$
$5+9=$	$9+3=$	$10+7=$	$16+5=$
$8+3=$	$7+9=$	$18+7=$	$17+5=$
$8+7=$	$5+6=$	$14+8=$	$15+7=$
$\begin{array}{r} 8 \\ 7 \\ 6 \end{array}$	$\begin{array}{r} 6 \\ 3 \\ 8 \end{array}$	$\begin{array}{r} 7 \\ 4 \\ 9 \end{array}$	$\begin{array}{r} 4 \\ 7 \\ 5 \end{array}$
$\begin{array}{r} 2 \\ 9 \\ 8 \end{array}$	$\begin{array}{r} 3 \\ 8 \\ 7 \end{array}$	$\begin{array}{r} 9 \\ 4 \\ 9 \end{array}$	$\begin{array}{r} 5 \\ 7 \\ 8 \end{array}$
$\begin{array}{r} 4 \\ 7 \\ 6 \end{array}$	$\begin{array}{r} 5 \\ 8 \\ 9 \end{array}$	$\begin{array}{r} 9 \\ 5 \\ 8 \end{array}$	$\begin{array}{r} 9 \\ 8 \\ 9 \end{array}$

### Exercise 2. Adding Two-Figure Numbers

Add 8 to each of these numbers:

8      12      15      16      27      24      39      48

Add:

$\begin{array}{r} 17 \\ 5 \end{array}$	$\begin{array}{r} 13 \\ 8 \end{array}$	$\begin{array}{r} 28 \\ 6 \end{array}$	$\begin{array}{r} 43 \\ 9 \end{array}$	$\begin{array}{r} 76 \\ 5 \end{array}$	$\begin{array}{r} 89 \\ 7 \end{array}$	$\begin{array}{r} 65 \\ 6 \end{array}$	$\begin{array}{r} 86 \\ 9 \end{array}$
$\begin{array}{r} 34 \\ 19 \\ 53 \end{array}$	$\begin{array}{r} 18 \\ 77 \\ 45 \end{array}$	$\begin{array}{r} 48 \\ 97 \\ 35 \end{array}$	$\begin{array}{r} 19 \\ 35 \\ 26 \end{array}$	$\begin{array}{r} 48 \\ 66 \\ 93 \end{array}$	$\begin{array}{r} 98 \\ 56 \\ 63 \end{array}$	$\begin{array}{r} 75 \\ 87 \\ 99 \end{array}$	

### Exercise 3. Adding in Harder Examples

$\begin{array}{r} 8 \\ 9 \\ 4 \end{array}$	$\begin{array}{r} 9 \\ 6 \\ 7 \end{array}$	$\begin{array}{r} 8 \\ 5 \\ 8 \end{array}$	$\begin{array}{r} 678 \\ 669 \\ 874 \end{array}$	$\begin{array}{r} 4 \\ 9 \\ 8 \end{array}$	$\begin{array}{r} 9 \\ 6 \\ 5 \end{array}$	$\begin{array}{r} 7 \\ 4 \\ 7 \end{array}$	$\begin{array}{r} 574 \\ 469 \\ 758 \end{array}$
--	--	--	--	--	--	--	--

## KNOWING THAT YOU KNOW

Write your answers on a folded paper. Check.

### Test 1. Easy Subtraction

$\begin{array}{r} 9 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 6 \\ \hline \end{array}$
$\begin{array}{r} 12 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 19 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ 6 \\ \hline \end{array}$
$\begin{array}{r} 29 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 41 \\ 1 \\ \hline \end{array}$	$\begin{array}{r} 57 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 30 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 20 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 50 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ 4 \\ \hline \end{array}$

### Test 2. Subtracting Two-Figure Numbers

$\begin{array}{r} 74 \\ 56 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ 18 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ 19 \\ \hline \end{array}$	$\begin{array}{r} 45 \\ 16 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ 45 \\ \hline \end{array}$	$\begin{array}{r} 85 \\ 47 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ 48 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ 29 \\ \hline \end{array}$
$\begin{array}{r} 90 \\ 17 \\ \hline \end{array}$	$\begin{array}{r} 85 \\ 35 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ 78 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ 46 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ 37 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ 59 \\ \hline \end{array}$	$\begin{array}{r} 60 \\ 34 \\ \hline \end{array}$	$\begin{array}{r} 80 \\ 23 \\ \hline \end{array}$

### Test 3. Subtracting Larger Numbers

$\begin{array}{r} 795 \\ 148 \\ \hline \end{array}$	$\begin{array}{r} 546 \\ 229 \\ \hline \end{array}$	$\begin{array}{r} 956 \\ 468 \\ \hline \end{array}$	$\begin{array}{r} 714 \\ 175 \\ \hline \end{array}$	$\begin{array}{r} 823 \\ 146 \\ \hline \end{array}$	$\begin{array}{r} 624 \\ 156 \\ \hline \end{array}$	$\begin{array}{r} 535 \\ 187 \\ \hline \end{array}$
$\begin{array}{r} 550 \\ 278 \\ \hline \end{array}$	$\begin{array}{r} 704 \\ 549 \\ \hline \end{array}$	$\begin{array}{r} 870 \\ 362 \\ \hline \end{array}$	$\begin{array}{r} 904 \\ 205 \\ \hline \end{array}$	$\begin{array}{r} 700 \\ 496 \\ \hline \end{array}$	$\begin{array}{r} 805 \\ 308 \\ \hline \end{array}$	$\begin{array}{r} 910 \\ 430 \\ \hline \end{array}$
$\begin{array}{r} \$25.00 \\ 11.75 \\ \hline \end{array}$	$\begin{array}{r} \$10.00 \\ 5.26 \\ \hline \end{array}$	$\begin{array}{r} \$12.75 \\ 5.50 \\ \hline \end{array}$	$\begin{array}{r} \$47.05 \\ 16.20 \\ \hline \end{array}$	$\begin{array}{r} \$86.01 \\ 19.34 \\ \hline \end{array}$	$\begin{array}{r} \$50.00 \\ 28.75 \\ \hline \end{array}$	

If you made mistakes on any test, work the exercises of the same number on pages 50 and 51. If you made no mistakes, skip pages 50 and 51.

<b>HELPING YOU TO KNOW</b>
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See how quickly you can write the remainders on a folded paper. Then check.

**Exercise 1. Easy Subtraction**

$\begin{array}{r} 7 \\ 2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 3 \\ \hline \end{array}$
$\begin{array}{r} 15 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 50 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 57 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 19 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 41 \\ 1 \\ \hline \end{array}$	$\begin{array}{r} 30 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 20 \\ 7 \\ \hline \end{array}$
$\begin{array}{r} 37 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ 9 \\ \hline \end{array}$

**Exercise 2. Subtracting Two-Figure Numbers**

$\begin{array}{r} 60 \\ 34 \\ \hline \end{array}$	$\begin{array}{r} 85 \\ 47 \\ \hline \end{array}$	$\begin{array}{r} 45 \\ 16 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ 78 \\ \hline \end{array}$	$\begin{array}{r} 35 \\ 18 \\ \hline \end{array}$	$\begin{array}{r} 90 \\ 17 \\ \hline \end{array}$	$\begin{array}{r} 85 \\ 35 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ 56 \\ \hline \end{array}$
$\begin{array}{r} 46 \\ 19 \\ \hline \end{array}$	$\begin{array}{r} 70 \\ 46 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ 37 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ 45 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ 59 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ 48 \\ \hline \end{array}$	$\begin{array}{r} 80 \\ 23 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ 29 \\ \hline \end{array}$

**Exercise 3. Subtracting Larger Numbers**

$\begin{array}{r} 624 \\ 156 \\ \hline \end{array}$	$\begin{array}{r} 910 \\ 430 \\ \hline \end{array}$	$\begin{array}{r} 700 \\ 496 \\ \hline \end{array}$	$\begin{array}{r} 535 \\ 187 \\ \hline \end{array}$	$\begin{array}{r} 870 \\ 362 \\ \hline \end{array}$	$\begin{array}{r} 546 \\ 229 \\ \hline \end{array}$	$\begin{array}{r} 714 \\ 175 \\ \hline \end{array}$
$\begin{array}{r} 704 \\ 549 \\ \hline \end{array}$	$\begin{array}{r} 795 \\ 148 \\ \hline \end{array}$	$\begin{array}{r} 805 \\ 308 \\ \hline \end{array}$	$\begin{array}{r} 823 \\ 146 \\ \hline \end{array}$	$\begin{array}{r} 904 \\ 205 \\ \hline \end{array}$	$\begin{array}{r} 956 \\ 468 \\ \hline \end{array}$	$\begin{array}{r} 550 \\ 278 \\ \hline \end{array}$
$\begin{array}{r} \$47.05 \\ 16.20 \\ \hline \end{array}$	$\begin{array}{r} \$50.00 \\ 28.75 \\ \hline \end{array}$	$\begin{array}{r} \$25.00 \\ 11.75 \\ \hline \end{array}$	$\begin{array}{r} \$86.01 \\ 19.34 \\ \hline \end{array}$	$\begin{array}{r} \$12.75 \\ 5.50 \\ \hline \end{array}$	$\begin{array}{r} \$10.00 \\ 5.26 \\ \hline \end{array}$	

# HELPING YOU TO KNOW

Find the answers quickly. Then check.

## Exercise 1. Easy Subtraction

$17 - 8 =$	$56 - 6 =$	$20 - 8 =$	$15 - 6 =$
$64 - 4 =$	$40 - 6 =$	$13 - 7 =$	$42 - 2 =$
$60 - 7 =$	$16 - 8 =$	$75 - 5 =$	$80 - 9 =$

## Exercise 2. Subtracting from Two-Figure Numbers

$15 - ? = 9$	$16 - ? = 7$	$14 - 7 = ?$	$13 - 9 = ?$
$13 - ? = 6$	$15 - ? = 8$	$13 - 4 = ?$	$14 - 5 = ?$
$\begin{array}{r} 70 \\ 25 \end{array}$	$\begin{array}{r} 63 \\ 47 \end{array}$	$\begin{array}{r} 82 \\ 36 \end{array}$	$\begin{array}{r} 54 \\ 29 \end{array}$
$\begin{array}{r} 25 \\ 17 \end{array}$	$\begin{array}{r} 46 \\ 28 \end{array}$	$\begin{array}{r} 97 \\ 59 \end{array}$	$\begin{array}{r} 58 \\ 37 \end{array}$

## Exercise 3. Harder Subtraction

Say the correct number for each blank.

You cannot subtract 7 from 6.

Add 10 to 6 = \_\_\_\_\_. Add 1 to 3 making \_\_\_\_\_

Think, 7 from 16 = \_\_\_\_\_. Write \_\_\_\_\_ under 7.

Think, 4 from 0. Add \_\_\_\_\_ to 0. Add 1 to 5.

Think, 4 from \_\_\_\_\_ = 6. Write 6 under 3.

Think, \_\_\_\_\_ from 8 = 2. Write \_\_\_\_\_ under 5.

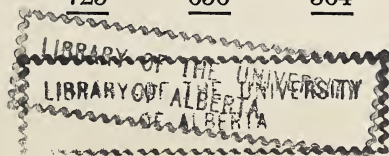
The answer is \_\_\_\_\_. Check your answer.

Write the remainders on a paper.

$\begin{array}{r} 932 \\ 456 \end{array}$	$\begin{array}{r} 820 \\ 540 \end{array}$	$\begin{array}{r} 904 \\ 725 \end{array}$	$\begin{array}{r} 736 \\ 656 \end{array}$	$\begin{array}{r} 620 \\ 364 \end{array}$	$\begin{array}{r} 703 \\ 683 \end{array}$
---	---	---	---	---	---

806  
537

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**THE GOAL**

For the pupils who made no mistakes on pages 46 and 49.

**More about Betty's Vacation Trip**

1. On their vacation trip Betty's family traveled 375 miles the first day, 349 miles the second day, and 256 miles the third day. How many miles did they travel in the three days?

2. Look at problem 1. On which day did they travel the most miles? The smallest number of miles? How much farther did they travel on the first day than on the third day?

3. The first day they had 216 miles of pavement; the second day, 295 miles of pavement; the third day, 96 miles of pavement. How many miles of pavement did they have in the three days?

4. Going from home they traveled 1308 miles. Coming back they traveled 1393 miles. Which route was longer and how much?

5. Their speedometer read 652 miles when they left home. When they returned home, it read 3353 miles. How many miles had they traveled?

6. Betty found they had traveled on pavement all the way but 373 miles, which was gravel. How many miles of pavement did they have on the trip?

**THE GOAL**

For the pupils who made no mistakes on pages 46 and 49.



7. On the third day Betty's family spent \$5.32 for gas and oil; for meals, \$3.75; for hotel, \$4.50; for work on the car, \$1.25; and for Indian baskets, \$2.15. How much did they spend that day?

8. They stopped in a town famous for fine woolens. Betty's mother bought blankets costing \$7.75, sweaters costing \$3.05, a coat for Betty for \$8.35, and 2 pairs golf socks costing \$1.80. How much did she spend for all these things?

9. To pay for the woolens she bought, Betty's mother gave the clerk a \$25.00 travelers' check. He gave her \$4.05 in change.

(a) How could Betty's mother be sure he gave her the right change?

(b) See if the change was correct.

## 54 Review in Reading and Writing Numbers

1. Read these numbers without saying "and":  
3,303      3,003      30,030      3,300      33,033

2. Read the numbers in this exercise, and tell what figures are in tens' place:

914      660      203      4,005      592      32      8,247  
105      17      864      4,020      375      100      2,394

3. What figure is in units' or ones' place in each of the numbers in exercise 2?

4. Some of the numbers in exercise 2 have figures in hundreds' place. What are the numbers and how many hundreds are shown in each number?

5. In many large numbers you will find three figures in thousands' group. Read the numbers below, without using the word "and."

469,328      639,150      982,025      514,440

6. Tell how many thousands are shown in each number in exercise 5.

Below are some money numbers. Remember to say "and" when you come to the decimal point before the number of cents. You should not use the word "and" in any other place in these numbers.

7. Read these money numbers:  
\$4.45      \$25      \$110      \$105.50      \$60.05      \$14.44

8. Write in words: \$4.45 \$110. Be careful in using "and."

## CHAPTER 4

### MULTIPLICATION

#### Jim and Fred Sell Papers and Magazines

1. Jim and Fred sell papers and magazines after school. Last week they sold 23 papers every day for 6 days. How many papers did they sell that week? How many are 6 times 23?



Write 6 under the 3 of 23, and multiply.

$6 \times 3 = 18$ . Write the 8 of 18 below the line under six. Remember the 1.

$6 \times 2 = 12$ , and 1 remembered makes 13.

Write 13 below the line to the left of 8.  
6 times 23 is 138.

Jim and Fred sold 138 papers that week.

2. During the last four weeks the boys sold 20, 27, 34, and 45 copies of a 5-cent magazine. How much money did they receive each week for that magazine?

**Remember:** You may multiply by either number.  
It is easier to multiply by the smaller number.

## 56 Getting Ready for Harder Multiplication

1. Here are five ways of writing multiplication examples. The sign  $\times$  is read **times**.

(a) 3 times 7 = 21

$$3 \times 7 = 21$$

7 multiplied by 3 = 21

Three 7's = 21

Multiply 7

$$\begin{array}{r} 3 \\ \times 7 \\ \hline 21 \end{array}$$

(b) 6 times 8 = 48

$$6 \times 8 = 48$$

8 multiplied by 6 = 48

Six 8's = 48

Multiply 8

$$\begin{array}{r} 6 \\ \times 8 \\ \hline 48 \end{array}$$

2. Give the answers quickly.

$6 \times 5 =$

$4 \times 6 =$

$3 \times 9 =$

$7 \times 7 =$

$4 \times 3 =$

$7 \times 4 =$

$6 \times 7 =$

$8 \times 8 =$

$8 \times 6 =$

$9 \times 2 =$

$5 \times 4 =$

$6 \times 6 =$

$5 \times 5 =$

$8 \times 7 =$

$9 \times 3 =$

$9 \times 9 =$

3. See if you can give each answer as quickly as you can read the example.

five 7's =

eight 3's =

two 7's =

three 4's =

two 9's =

seven 4's =

six 9's =

eight 9's =

six 2's =

three 9's =

five 6's =

nine 4's =

nine 5's =

four 8's =

four 7's =

seven 8's =

4. Copy and multiply. Write the answers.

$$\begin{array}{r} 22 \\ 4 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ 3 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ 2 \\ \hline \end{array}$$

$$\begin{array}{r} 21 \\ 5 \\ \hline \end{array}$$

$$\begin{array}{r} 60 \\ 3 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ 4 \\ \hline \end{array}$$

$$\begin{array}{r} 53 \\ 3 \\ \hline \end{array}$$

$$\begin{array}{r} 81 \\ 7 \\ \hline \end{array}$$

$$\begin{array}{r} 50 \\ 9 \\ \hline \end{array}$$

$$\begin{array}{r} 71 \\ 6 \\ \hline \end{array}$$

$$\begin{array}{r} 61 \\ 8 \\ \hline \end{array}$$

$$\begin{array}{r} 42 \\ 4 \\ \hline \end{array}$$

$$\begin{array}{r} 80 \\ 8 \\ \hline \end{array}$$

$$\begin{array}{r} 91 \\ 9 \\ \hline \end{array}$$

72 multiplicand
4 multiplier
<u>288</u> product

The number multiplied is called the **multiplicand**.

The number multiplied by is called the **multiplier**.

The answer is called the **product**.

1. Copy these multiplication examples and write the answers.

44	73	62	71	51	43	80
<u>2</u>	<u>3</u>	<u>3</u>	<u>9</u>	<u>7</u>	<u>3</u>	<u>9</u>

2. Name the multiplicand, the multiplier, and the product in each example above.

3. Write the products for these examples on a folded paper. Remember what you should do with the tens when any product is more than 9.

79	35	57	96	43	77	62
<u>2</u>	<u>4</u>	<u>5</u>	<u>3</u>	<u>7</u>	<u>4</u>	<u>6</u>
974	387	609	527	489	709	805
<u>5</u>	<u>7</u>	<u>6</u>	<u>9</u>	<u>3</u>	<u>8</u>	<u>9</u>
296	698	645	187	374	453	745
<u>9</u>	<u>8</u>	<u>7</u>	<u>9</u>	<u>6</u>	<u>8</u>	<u>4</u>

4. Name the multiplicand, the multiplier, and the product in each example in the last row of exercise 3.

This chart gives you all the 100 products that you get when you multiply a one-figure number by a one-figure number. Check your work in this chart.

1. Mary wants to know the product of 9 and 6. Can you find it in the chart? Find 9 in the black figures at the top. Find 6 in the black figures at the side. Now look across to the right from 6 until you find the red number 54 in the column under 9. 54 is the product of 9 and 6.

**Table of Products**

	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

On what multiplication examples do you sometimes make mistakes? Ask your teacher what other examples you need to practice. Practice on them until you can say the products without a mistake.

This page gives practice on 50 of the harder multiplication facts.

See if you can say all the products as fast as you can read the examples. If you do not know the product quickly, find it in the chart on page 58. Then say the example and product over again.

$$\begin{array}{r} 1. \quad \begin{array}{r} 8 \\ \underline{1} \end{array} \quad \begin{array}{r} 2 \\ \underline{7} \end{array} \quad \begin{array}{r} 9 \\ \underline{3} \end{array} \quad \begin{array}{r} 4 \\ \underline{2} \end{array} \quad \begin{array}{r} 8 \\ \underline{9} \end{array} \quad \begin{array}{r} 4 \\ \underline{0} \end{array} \quad \begin{array}{r} 8 \\ \underline{2} \end{array} \quad \begin{array}{r} 0 \\ \underline{9} \end{array} \end{array}$$

$$\begin{array}{r} 2. \quad \begin{array}{r} 6 \\ \underline{2} \end{array} \quad \begin{array}{r} 5 \\ \underline{3} \end{array} \quad \begin{array}{r} 3 \\ \underline{6} \end{array} \quad \begin{array}{r} 1 \\ \underline{6} \end{array} \quad \begin{array}{r} 8 \\ \underline{8} \end{array} \quad \begin{array}{r} 3 \\ \underline{9} \end{array} \quad \begin{array}{r} 7 \\ \underline{4} \end{array} \quad \begin{array}{r} 6 \\ \underline{8} \end{array} \end{array}$$

$$\begin{array}{r} 3. \quad \begin{array}{r} 8 \\ \underline{3} \end{array} \quad \begin{array}{r} 7 \\ \underline{9} \end{array} \quad \begin{array}{r} 3 \\ \underline{3} \end{array} \quad \begin{array}{r} 6 \\ \underline{6} \end{array} \quad \begin{array}{r} 9 \\ \underline{4} \end{array} \quad \begin{array}{r} 7 \\ \underline{3} \end{array} \quad \begin{array}{r} 2 \\ \underline{9} \end{array} \quad \begin{array}{r} 4 \\ \underline{3} \end{array} \end{array}$$

$$\begin{array}{r} 4. \quad \begin{array}{r} 8 \\ \underline{7} \end{array} \quad \begin{array}{r} 8 \\ \underline{4} \end{array} \quad \begin{array}{r} 9 \\ \underline{7} \end{array} \quad \begin{array}{r} 3 \\ \underline{8} \end{array} \quad \begin{array}{r} 6 \\ \underline{4} \end{array} \quad \begin{array}{r} 7 \\ \underline{8} \end{array} \quad \begin{array}{r} 4 \\ \underline{9} \end{array} \quad \begin{array}{r} 6 \\ \underline{7} \end{array} \end{array}$$

$$\begin{array}{r} 5. \quad \begin{array}{r} 3 \\ \underline{4} \end{array} \quad \begin{array}{r} 7 \\ \underline{7} \end{array} \quad \begin{array}{r} 6 \\ \underline{9} \end{array} \quad \begin{array}{r} 6 \\ \underline{3} \end{array} \quad \begin{array}{r} 4 \\ \underline{6} \end{array} \quad \begin{array}{r} 9 \\ \underline{8} \end{array} \quad \begin{array}{r} 9 \\ \underline{9} \end{array} \quad \begin{array}{r} 4 \\ \underline{7} \end{array} \end{array}$$

$$\begin{array}{r} 6. \quad \begin{array}{r} 9 \\ \underline{6} \end{array} \quad \begin{array}{r} 3 \\ \underline{7} \end{array} \quad \begin{array}{r} 4 \\ \underline{8} \end{array} \quad \begin{array}{r} 4 \\ \underline{4} \end{array} \quad \begin{array}{r} 0 \\ \underline{6} \end{array} \quad \begin{array}{r} 5 \\ \underline{4} \end{array} \quad \begin{array}{r} 8 \\ \underline{6} \end{array} \quad \begin{array}{r} 7 \\ \underline{6} \end{array} \end{array}$$

### Adding a Number to the Product

Say the answers to these examples quickly.

$$\begin{array}{lll} 7. & 4 \times 8 + 5 = & 4 \times 7 + 3 = & 3 \times 6 + 7 = \\ & 3 \times 9 + 6 = & 8 \times 6 + 5 = & 8 \times 3 + 5 = \\ & 6 \times 7 + 4 = & 7 \times 6 + 5 = & 7 \times 7 + 4 = \end{array}$$

## 60 Remembering What You Have Learned about United States Money



### Counting the Playground Money

1. Read this money table.

100¢ = 1 dollar (\$1.00)

50¢ = 1 half-dollar (\$.50)

25¢ = 1 quarter (\$.25)

10¢ = 1 dime (\$.10)

5¢ = 1 nickel (\$.05)

1¢ = 1 penny (\$.01)

2. The fourth grade children counted their playground money by putting the coins of each kind in separate piles. This is a list of the coins they had.

33 pennies = \_\_\_\_ cents = \$ \_\_\_\_

25 nickels = \_\_\_\_ cents = \$ \_\_\_\_

10 dimes = \_\_\_\_ cents = \$ \_\_\_\_

3 quarters = \_\_\_\_ cents = \$ \_\_\_\_

1 half-dollar = \_\_\_\_ cents = \$ \_\_\_\_

Copy the list and fill the blanks correctly. Be sure to point off two figures for cents and to use the sign \$ in the last column.

3. Add to find how much money they had.

## Remembering What You Have Learned 61

4. The first, second, and third grades counted their money on the same day. Children from the fourth grade helped them.

First Grade \$3.16

Second Grade \$2.08

31 pennies =     ¢ = \$    

13 pennies = \_\_\_\_¢ = \$\_\_\_\_

29 nickels =     ¢ = \$    

20 nickels =     ¢ = \$    

9 dimes =     ¢ = \$    

7 dimes =     ¢ = \$    

2 quarters = \_\_\_\_¢ = \$\_\_\_\_

1 quarter = \_\_\_\_¢ = \$\_\_\_\_

Copy and finish each list. Add to see if the first grade had \$3.16. Add to see if the second grade had \$2.08.

5. The third grade boys and girls brought 15 pennies; 10 nickels; 10 dimes; 4 quarters; and 2 half-dollars. Make a list for the third grade. How much money did they bring?

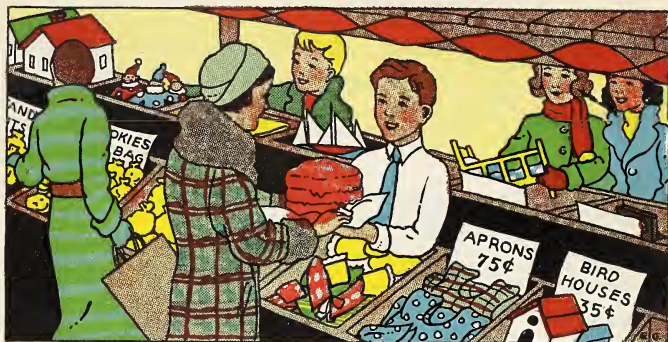
6. How did the fourth grade children find how much playground money the four grades had? How much money did they have?

7. Write these money numbers in a column and add them. Keep the decimal points under each other. Check your answers.

(a) \$4    \$10.25    \$6.05    40 cents

(b) Five dollars and eight cents      \$9

(c) \$1.35    42 cents    \$2    15 cents



### Bob and Tom Help at the School Fair

The fourth grade in Jones school gave a fair to raise money for the school library. Bob and Tom took turns acting as cashier. A cashier handles the money.

1. While Bob was cashier, Mrs. Rash handed him a dollar bill to pay for a cake that cost 50¢. Tell how much change he should give her.

2. Mrs. Rose handed him a quarter for 20¢ worth of cookies. How much change should she get?

3. Mary bought a doll bed that cost 35¢. She gave Bob a half-dollar to pay for it. In what pieces of money could he give her the right change?

4. Mrs. Hunt handed Bob a dollar to pay for an apron that cost 75¢. How much change should he give her? What piece of money could he use?

## Making Change the Business Man's Way 63

When Tom became cashier at the school fair, he made change as the clerks do in stores.

1. Bob turned over to Tom 3 one-dollar bills; 4 half-dollars; 4 quarters; 7 dimes; 10 nickels; and 11 pennies. Make a chart of these amounts like the chart on page 60. How much money did Bob turn over to Tom?

2. Helen gave Tom a quarter to pay for ten cents worth of candy. Tom handed Helen the candy, and said, "Ten cents." He handed her a dime, and said, "Twenty." Then he handed Helen a nickel and said \_\_\_\_\_.

3. Rose gave Tom a half-dollar to pay for a bird house that cost 35¢. What change should Tom hand to Rose? Add and tell what he should say.

4. Count out change for these things in the way Tom did. If you need to do so, you may use the one-dollar, two-dollar, and five-dollar bills.

Name the pieces of money you would use as change.

Things Bought	Money	Change
Candy 40¢	1 half-dollar	_____
Popcorn 10¢	1 quarter	_____
Doll house \$1.50	5-dollar bill	_____
Cake 75¢	2-dollar bill	_____
Kite 25¢	1 dollar	_____
Nuts 15¢	1 half-dollar	_____

## Blue Racer Gasoline

Regular	Ethyl	Blue
1 gal. \$ .14	1 gal. \$ .18	1 gal. \$ .11
Tax .03	Tax .03	Tax .03
Total \$ .17	Total \$ .21	Total \$ .14
5 gal. _____	5 gal. _____	5 gal. _____
6 gal. _____	6 gal. _____	6 gal. _____
7 gal. _____	7 gal. _____	7 gal. _____
8 gal. _____	8 gal. _____	8 gal. _____
9 gal. _____	9 gal. _____	9 gal. _____
10 gal. _____	10 gal. _____	10 gal. _____

This is a price chart for gasoline.

1. Should you add, subtract, or multiply to find the price of 5 gallons of Regular gasoline?

2. When you know the price of 5 gallons, how can you find the cost of 10 gallons?

3. Copy the chart and fill the blanks. Be sure to use the decimal point and the dollar sign in the right places.

4. When your price chart is finished, read the cost of the following:

8 gal. Regular

5 gal. Ethyl

7 gal. Blue

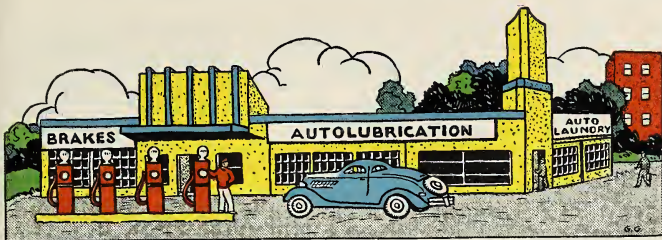
8 gal. Blue

6 gal. Ethyl

7 gal. Regular

9 gal. Blue

10 gal. Ethyl



## Gas and Oil

4. Make five problems about buying gasoline. Look at your chart and tell the answer in each of your problems.

5. Make another chart like the first one, but add a 4¢ tax to the price of each gallon: Regular, 14¢; Ethyl, 18¢; \_\_\_\_\_, 11¢. Choose a name for the last kind of gas.

6. Multiply and write your answers on a folded paper. Remember to place the dollar sign and the decimal point in each product.

\$ .99	\$ .46	\$2.67	\$4.35	\$20.15	\$507.15
<u>7</u>	<u>4</u>	<u>5</u>	<u>8</u>	<u>4</u>	<u>7</u>

\$8.09	\$ .67	\$28.75	\$37.62	\$16.17	\$317.75
<u>6</u>	<u>9</u>	<u>3</u>	<u>9</u>	<u>6</u>	<u>8</u>

\$1.45	\$7.92	\$9.26	\$28.46	\$9.54	\$105.14
<u>9</u>	<u>2</u>	<u>8</u>	<u>7</u>	<u>8</u>	<u>5</u>

## 66 Multiplication in Reviewing Measures

1. Read three or four times.

Then copy.

12 inches = 1 foot (ft.)

3 feet = 1 yard (yd.)

1 yard = 36 inches (in.)

2. Copy and fill the blanks correctly.



3 yd. = \_\_\_\_\_ ft.

2 ft. = \_\_\_\_\_ in.

5 yd. = \_\_\_\_\_ ft.

2 yd. = \_\_\_\_\_ in.

9 yd. = \_\_\_\_\_ ft.

3 doz. bananas = \_\_\_\_\_ bananas

3 ft. = \_\_\_\_\_ in.

7 doz. cookies = \_\_\_\_\_ cookies

### Getting Ready for Harder Multiplication

3. The following exercises will help you multiply quickly and correctly.

(a) Multiply each of these numbers by 6 and add 2 to the product. Begin, 6 times 7 is 42, and 2 is 44.

7   5   3   9   2   8   1   6   4   0

(b) Multiply each of the same numbers by 8 and add 3 to the product.

(c) Now multiply each of the numbers by 7 and add 4; multiply by 4 and add 5; by 9 and add 1.

4. Write the products on a paper.

624  
5

481  
9

736  
7

295  
8

547  
6

864  
7

748  
9

Write your answers on paper. Try to finish each exercise in  $\frac{1}{2}$  minute. Multiply and add.

- |    |                    |                    |                    |
|----|--------------------|--------------------|--------------------|
| 1. | $6 \times 9 + 1 =$ | $4 \times 9 + 1 =$ | $4 \times 5 + 3 =$ |
|    | $8 \times 3 + 5 =$ | $4 \times 3 + 2 =$ | $7 \times 4 + 3 =$ |
| 2. | $7 \times 5 + 5 =$ | $6 \times 4 + 3 =$ | $3 \times 6 + 1 =$ |
|    | $5 \times 6 + 2 =$ | $6 \times 9 + 2 =$ | $9 \times 9 + 3 =$ |
| 3. | $9 \times 3 + 5 =$ | $8 \times 3 + 4 =$ | $8 \times 8 + 5 =$ |
|    | $5 \times 8 + 4 =$ | $7 \times 2 + 4 =$ | $9 \times 6 + 2 =$ |
| 4. | $3 \times 8 + 1 =$ | $6 \times 9 + 5 =$ | $4 \times 6 + 1 =$ |
|    | $9 \times 8 + 4 =$ | $7 \times 7 + 3 =$ | $9 \times 7 + 4 =$ |

Try to find the right answers for each exercise in 3 minutes. Copy and multiply. Watch the product in each step. In the first example below, 8 times 7 is 56. What should you do with the 5 tens in the 56?

- |    |   |   |   |   |   |   |   |
|----|---|---|---|---|---|---|---|
| 5. | $\begin{array}{r} 217 \\ \underline{8} \end{array}$ | $\begin{array}{r} 186 \\ \underline{5} \end{array}$ | $\begin{array}{r} 908 \\ \underline{6} \end{array}$ | $\begin{array}{r} 407 \\ \underline{7} \end{array}$ | $\begin{array}{r} 613 \\ \underline{9} \end{array}$ | $\begin{array}{r} 195 \\ \underline{4} \end{array}$ | $\begin{array}{r} 280 \\ \underline{3} \end{array}$ |
| 6. | $\begin{array}{r} 379 \\ \underline{3} \end{array}$ | $\begin{array}{r} 863 \\ \underline{7} \end{array}$ | $\begin{array}{r} 793 \\ \underline{4} \end{array}$ | $\begin{array}{r} 907 \\ \underline{5} \end{array}$ | $\begin{array}{r} 410 \\ \underline{6} \end{array}$ | $\begin{array}{r} 684 \\ \underline{2} \end{array}$ | $\begin{array}{r} 467 \\ \underline{3} \end{array}$ |
| 7. | $\begin{array}{r} 973 \\ \underline{7} \end{array}$ | $\begin{array}{r} 494 \\ \underline{6} \end{array}$ | $\begin{array}{r} 393 \\ \underline{8} \end{array}$ | $\begin{array}{r} 934 \\ \underline{4} \end{array}$ | $\begin{array}{r} 469 \\ \underline{9} \end{array}$ | $\begin{array}{r} 367 \\ \underline{6} \end{array}$ | $\begin{array}{r} 436 \\ \underline{3} \end{array}$ |
| 8. | $\begin{array}{r} 634 \\ \underline{3} \end{array}$ | $\begin{array}{r} 579 \\ \underline{4} \end{array}$ | $\begin{array}{r} 478 \\ \underline{8} \end{array}$ | $\begin{array}{r} 648 \\ \underline{7} \end{array}$ | $\begin{array}{r} 486 \\ \underline{3} \end{array}$ | $\begin{array}{r} 869 \\ \underline{6} \end{array}$ | $\begin{array}{r} 169 \\ \underline{3} \end{array}$ |

## 68 Adding, Subtracting, Multiplying

1. Read these examples and say the correct numbers for each blank.

$8 \text{ yd.} = \underline{\quad} \text{ ft.}$

$\underline{\quad} \text{ dimes} = \$1.00$

$6 \text{ qt.} = \underline{\quad} \text{ pt.}$

$\underline{\quad} \text{ things} = 4 \text{ doz.}$

$4 \text{ gal.} = \underline{\quad} \text{ qt.}$

$1 \text{ ft.} = \underline{\quad} \text{ in.}$

$6 \text{ dimes} = \underline{\quad} \text{ cents}$

$5 \text{ yd.} = \underline{\quad} \text{ ft.}$

$7 \text{ nickels} = \underline{\quad} \text{ cents}$

$8 \text{ gal.} = \underline{\quad} \text{ pt.}$

2. Write the sums on a paper.

5	3	7	4	2	7	6	5	7	9
7	6	2	7	8	6	5	9	5	4
3	2	9	6	4	8	9	8	2	3
2	5	1	3	6	3	4	3	6	5
<u>1</u>	<u>4</u>	<u>6</u>	<u>8</u>	<u>5</u>	<u>9</u>	<u>6</u>	<u>7</u>	<u>9</u>	<u>3</u>

3. Write the answers to these examples on a paper as quickly as you can. Subtract.

37	25	63	41	54	86	91	77
<u>19</u>	<u>7</u>	<u>25</u>	<u>26</u>	<u>8</u>	<u>7</u>	<u>48</u>	<u>19</u>

4. Say the products quickly.

9	7	8	6	5	3	2	9	5	7
<u>2</u>	<u>6</u>	<u>4</u>	<u>3</u>	<u>9</u>	<u>7</u>	<u>7</u>	<u>6</u>	<u>8</u>	<u>4</u>

5. Read these examples and give answers quickly.

$3 \times 4 + 7 =$	$6 \times 6 + 3 =$	$8 \times 9 + 4 =$	$8 \times 9 + 1 =$
$8 \times 3 + 5 =$	$7 \times 4 + 3 =$	$9 \times 7 + 4 =$	$4 \times 7 + 6 =$
$4 \times 4 + 2 =$	$3 \times 6 + 5 =$	$4 \times 8 + 6 =$	$3 \times 3 + 7 =$



Read each problem carefully. Tell whether you should add, subtract, or multiply to find the answer. Then answer the question in the problem.

1. Bess crossed the ocean with her father on a ship that had 6 decks for passengers. The average number of passengers on each deck was 189. How many passengers were on the ship?

2. Florence has \$23.14 and Helen has \$18.46. Which of the girls has more money? How much more?

3. Last year Fred earned \$87.85. Year before last he earned \$73.56. How much did Fred earn in these two years?

4. At a sale Mason's store sold boys' overcoats at \$9 each. How much money would they get for 236 of these coats?

5. Mason's had some suits marked at \$15. They marked the suits down and sold them at \$9.98. How much less than the old price was the sale price?

**Timed Exercises**

1. See if you can find the answers in 6 minutes.  
Write on a paper.

(a) Add  

$$\begin{array}{r} 42 \\ 75 \\ \hline 64 \end{array}$$

(b) Subtract  

$$\begin{array}{r} 956 \\ 368 \\ \hline \end{array}$$

(c)  $7 \times 926 =$

(d)  $8945 - 786 =$

(e) Multiply  

$$\begin{array}{r} 675 \\ \times 6 \\ \hline \end{array}$$

(f) Subtract  

$$\begin{array}{r} 7081 \\ 2654 \\ \hline \end{array}$$

(g) Multiply  

$$\begin{array}{r} 874 \\ \times 3 \\ \hline \end{array}$$

(h) Add  

$$\begin{array}{r} 542 \\ 786 \\ 935 \\ \hline 867 \end{array}$$

(i) Multiply  

$$\begin{array}{r} 789 \\ \times 4 \\ \hline \end{array}$$

(j) Subtract  

$$\begin{array}{r} \$10.00 \\ \hline 7.83 \end{array}$$

(k)  $70 + 85 + 9 + 27 =$

2. Try to find the sums in 5 minutes.

$$\begin{array}{r} \$2.15 \\ 7.37 \\ \hline 8.60 \end{array}$$

$$\begin{array}{r} \$1.75 \\ 3.25 \\ \hline 6.52 \end{array}$$

$$\begin{array}{r} \$75.32 \\ 61.95 \\ \hline 42.26 \end{array}$$

$$\begin{array}{r} \$782.74 \\ 166.95 \\ \hline 79.37 \end{array}$$

$$\begin{array}{r} \$237.90 \\ 456.25 \\ \hline 392.18 \end{array}$$

$$\begin{array}{r} \$66.31 \\ 75.05 \\ \hline 36.25 \end{array}$$

$$\begin{array}{r} \$95.57 \\ 87.35 \\ \hline 41.49 \end{array}$$

$$\begin{array}{r} \$80.75 \\ 44.30 \\ \hline 65.27 \end{array}$$

$$\begin{array}{r} \$56.92 \\ 47.25 \\ \hline 38.17 \end{array}$$

$$\begin{array}{r} \$135.47 \\ 744.66 \\ \hline 397.25 \end{array}$$

3. Try to find the remainders in 2 minutes.

$$\begin{array}{r} \$85.05 \\ \hline 42.59 \end{array}$$

$$\begin{array}{r} \$87.40 \\ \hline 32.75 \end{array}$$

$$\begin{array}{r} \$90.65 \\ \hline 73.49 \end{array}$$

$$\begin{array}{r} \$176.90 \\ \hline 79.33 \end{array}$$

$$\begin{array}{r} \$126.45 \\ \hline 88.70 \end{array}$$



1. Clark has 5 puppies in his kennel. He wants to sell them at 75¢ each. How much money should Clark get for the puppies?

2. Dick is buying ice cream for the picnic. One gallon of ice cream will serve 28 people. How many people will 7 gallons serve?

3. Nine boys were picking apples for Mr. Arnold last Saturday. Each boy picked 16 pecks of apples. How many pecks of apples did the 9 boys pick? How many bushels? 4 pecks (pk.) = 1 bushel (bu.)

4. Copy these examples and find the products.

69	54	28	96	73	87	36	45
<u>6</u>	<u>7</u>	<u>3</u>	<u>8</u>	<u>9</u>	<u>4</u>	<u>5</u>	<u>9</u>

90	63	62	84	39	78	60	46
<u>5</u>	<u>7</u>	<u>9</u>	<u>6</u>	<u>8</u>	<u>4</u>	<u>3</u>	<u>8</u>

604	379	803	700	470	508	394	378
<u>5</u>	<u>8</u>	<u>9</u>	<u>4</u>	<u>7</u>	<u>7</u>	<u>6</u>	<u>6</u>

<b>KNOWING THAT YOU KNOW</b>
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Write the products on a folded paper. Work as fast as you can without making mistakes.

**Test 1. Multiplying One-Figure Numbers**

$\begin{array}{r} 9 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 5 \\ \hline \end{array}$
$\begin{array}{r} 4 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ 6 \\ \hline \end{array}$

**Test 2. Multiplying Two-Figure Numbers**

$\begin{array}{r} 32 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 28 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 51 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 60 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 31 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 40 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 80 \\ 8 \\ \hline \end{array}$
$\begin{array}{r} 74 \\ 2 \\ \hline \end{array}$	$\begin{array}{r} 91 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 28 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 79 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ 7 \\ \hline \end{array}$
$\begin{array}{r} 95 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 92 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ 6 \\ \hline \end{array}$

**Test 3. Multiplying Longer Numbers**

$\begin{array}{r} 639 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 844 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 217 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 936 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 713 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 864 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 763 \\ 5 \\ \hline \end{array}$
$\begin{array}{r} 598 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 719 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 395 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 426 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 678 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 359 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 854 \\ 8 \\ \hline \end{array}$

If you made mistakes on any of these tests, work the exercises of the same number on pages 73 and 74. If you made no mistakes, skip pages 73 and 74.

## HELPING YOU TO KNOW

Write the products to these examples on a folded paper.

### Exercise 1. Multiplying One-Figure Numbers

$6 \times 9 =$	$7 \times 9 =$	$3 \times 7 =$	$6 \times 7 =$
$7 \times 5 =$	$4 \times 8 =$	$4 \times 3 =$	$9 \times 3 =$
$3 \times 8 =$	$7 \times 3 =$	$8 \times 7 =$	$8 \times 8 =$
$9 \times 4 =$	$4 \times 9 =$	$9 \times 9 =$	$6 \times 4 =$
$8 \times 6 =$	$5 \times 6 =$	$7 \times 7 =$	$9 \times 8 =$

### Exercise 2. Multiplying Two-Figure Numbers

$\begin{array}{r} 79 \\ \underline{3} \end{array}$	$\begin{array}{r} 92 \\ \underline{9} \end{array}$	$\begin{array}{r} 31 \\ \underline{4} \end{array}$	$\begin{array}{r} 59 \\ \underline{6} \end{array}$	$\begin{array}{r} 36 \\ \underline{5} \end{array}$	$\begin{array}{r} 51 \\ \underline{5} \end{array}$	$\begin{array}{r} 28 \\ \underline{3} \end{array}$	$\begin{array}{r} 91 \\ \underline{6} \end{array}$
$\begin{array}{r} 39 \\ \underline{8} \end{array}$	$\begin{array}{r} 32 \\ \underline{3} \end{array}$	$\begin{array}{r} 74 \\ \underline{2} \end{array}$	$\begin{array}{r} 64 \\ \underline{3} \end{array}$	$\begin{array}{r} 95 \\ \underline{6} \end{array}$	$\begin{array}{r} 87 \\ \underline{9} \end{array}$	$\begin{array}{r} 74 \\ \underline{8} \end{array}$	$\begin{array}{r} 40 \\ \underline{3} \end{array}$
$\begin{array}{r} 43 \\ \underline{5} \end{array}$	$\begin{array}{r} 80 \\ \underline{8} \end{array}$	$\begin{array}{r} 28 \\ \underline{4} \end{array}$	$\begin{array}{r} 60 \\ \underline{7} \end{array}$	$\begin{array}{r} 87 \\ \underline{6} \end{array}$	$\begin{array}{r} 64 \\ \underline{7} \end{array}$	$\begin{array}{r} 54 \\ \underline{7} \end{array}$	$\begin{array}{r} 64 \\ \underline{8} \end{array}$

### Exercise 3. Multiplying Longer Numbers

$\begin{array}{r} 763 \\ \underline{5} \end{array}$	$\begin{array}{r} 678 \\ \underline{5} \end{array}$	$\begin{array}{r} 217 \\ \underline{7} \end{array}$	$\begin{array}{r} 598 \\ \underline{8} \end{array}$	$\begin{array}{r} 844 \\ \underline{6} \end{array}$	$\begin{array}{r} 426 \\ \underline{7} \end{array}$	$\begin{array}{r} 864 \\ \underline{3} \end{array}$
$\begin{array}{r} 719 \\ \underline{9} \end{array}$	$\begin{array}{r} 359 \\ \underline{6} \end{array}$	$\begin{array}{r} 395 \\ \underline{3} \end{array}$	$\begin{array}{r} 713 \\ \underline{9} \end{array}$	$\begin{array}{r} 854 \\ \underline{8} \end{array}$	$\begin{array}{r} 639 \\ \underline{9} \end{array}$	$\begin{array}{r} 936 \\ \underline{4} \end{array}$

## HELPING YOU TO KNOW

### Exercise 1

$7 \times 8 =$	$9 \times 0 =$	eight 5's =	nine 3's =
$5 \times 6 =$	$8 \times 6 =$	seven 8's =	seven 9's =
$9 \times 8 =$	$0 \times 7 =$	nine 9's =	six 3's =

Multiply each of these numbers by 7. Next, multiply each of them by 6. By 9.

9      5      3      0      4      6      8      7      2      1

### Exercise 2

$6 \times 4 + 2 =$	$7 \times 6 + 2 =$	$4 \times 9 + 6 =$	$5 \times 0 + 3 =$
$7 \times 3 + 2 =$	$8 \times 9 + 1 =$	$6 \times 2 + 4 =$	$9 \times 6 + 7 =$
$8 \times 4 + 5 =$	$6 \times 8 + 2 =$	$5 \times 6 + 3 =$	$6 \times 7 + 3 =$

Multiply each of these numbers by 7 and add 3 to the product.

4      1      6      0      7      5      3      9      6      7

Multiply each number by 8 and add 5.

3      9      6      1      8      0      7      4      5      2

### Exercise 3

$\begin{array}{r} 48 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 93 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 29 \\ 6 \\ \hline \end{array}$
$\begin{array}{r} 365 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 897 \\ 3 \\ \hline \end{array}$	$\begin{array}{r} 465 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 378 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 687 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 796 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 829 \\ 9 \\ \hline \end{array}$

## THE GOAL

For the pupils who made no mistakes on page 72.

### More about the School Fair

The morning after the school fair the cashiers, Tom and Bob, put this report on the blackboard.

#### Money Received

---

1 five-dollar bill; 2 silver dollars;	
9 one-dollar bills . . . . .	\$ _____
7 half-dollars . . . . .	\$ _____
10 quarters . . . . .	\$ _____
30 nickels . . . . .	\$ _____
12 pennies . . . . .	\$ _____

1. Copy the report and find how much money they received. Show the class each place where you add or multiply to find the answer.

2. These are some of the problems Tom had in making change. In each line count out the change the way Bob and Tom did at the fair.

Price	Money Paid
60¢	3 quarters
35¢	1 half-dollar
7¢	1 dime
15¢	1 quarter
43¢	1 half-dollar
31¢	4 dimes

Price	Money Paid
12¢	3 nickels
17¢	2 dimes
90¢	1 dollar bill
75¢	1 silver dollar
49¢	2 quarters
20¢	1 half-dollar

**THE GOAL**

For the pupils who made no mistakes on page 72.

1. Bob took an automobile trip with his father and mother last summer. He kept a record of the expenses of the trip each day. The first day his father bought 15 gallons of gasoline at 18¢ a gallon, and 2 quarts of oil at 25¢ a quart. Their lunch cost 40¢ for each person, their dinner, 85¢ for each person, and other expenses for the day, \$2.00. What were their expenses the first day?

2. The second day Bob's father bought 25 gallons of gasoline at 22¢ a gallon, one quart of oil at 30¢ a quart. He paid a hotel bill of \$5.00. Breakfast for three was 35¢ for each person, lunch, 40¢, dinner, 85¢, other expenses for the day, \$1.50. What was the total expense of the second day?

3. The last day of their trip, they bought 15 gallons of gasoline at 18¢ a gallon, 12 quarts of oil at 25¢ a quart, and paid a hotel bill of \$4.00. Their breakfast cost 40¢ for each person, lunch, 50¢ for each person. They had other expenses of \$1.35. What were the expenses for the last day on the trip?

4. Bob's father asked him to find the cost for the 3 days. How much was the cost?

CHAPTER 5

HARDER MULTIPLICATION

Two-Figure Multipliers



**Filling a Stamp Book**

1. Gerald has 12 pages in his stamp book. He has 24 stamps on each page. How many stamps are in his book?

To find how many stamps Gerald has in his book, multiply 24 by 12. Begin at the right.

**Multiply**

$$\begin{array}{r} 24 \\ 12 \\ \hline 48 \\ 24 \\ \hline 288 \end{array}$$

Step 1.  $2 \times 4 = 8$        $2 \times 2 = 4$ . The product is 48. Write 48 with the 8 under the multiplier 2.

Step 2. Multiply 24 by 1. The product is 24. Write 24 on a new line with the 4 under the 1 in the multiplier.

Step 3. Add the two products as they are written.  $12 \times 24 = 288$

Gerald has 288 stamps in his book.

## Checking Multiplication

1. Carl has filled 37 pages in his stamp book. He has 26 stamps on each page. How many stamps are in Carl's book?

Multiply 26 by 37.

**Multiply**

$$\begin{array}{r} 26 \\ 37 \\ \hline 182 \\ 78 \\ \hline 962 \end{array}$$

Step 1.  $7 \times 26 = 182$ . Tell where to write this product.

Step 2.  $3 \times 26 = 78$ . Tell where to write this product.

Step 3. Add the two products as they are written.

How many stamps are in Carl's book?

Check the multiplication in problem 1.

Multiply 37 by 26.

**Check**

$$\begin{array}{r} 37 \\ 26 \\ \hline 222 \\ 74 \\ \hline 962 \end{array}$$

Step 1. Multiply 37 by 6. The product is 222.

Step 2. Multiply 37 by 2. The product is 74.

Step 3. Add the two products as they are written. The product of 37 multiplied by 26 is 962.

The answer in this problem is correct, because the product is 962 each way.

Check multiplication by using the multiplicand as the multiplier. The product is the same each way.



### Selling Things from the Farm

1. Mrs. Reed sold 41 dozen eggs one week, 42 dozen the next week, and 43 dozen the third week. The sum was the same as if she had sold 42 dozen eggs each week. We say the **average** was 42 dozen. How many eggs are 42 dozen eggs?

2. Edward sold an average of 36 bushels of apples a week for 15 weeks. How many bushels of apples did he sell in that time? Check your answer.

3. Mr. Gray sold 36 pounds of hickory nuts at 21¢ a pound. How much money did he get for them?

$$\begin{array}{r}
 \$ .21 \\
 \quad 36 \\
 \hline
 1\ 26 \\
 6\ 3 \\
 \hline
 \$7.56
 \end{array}$$

In this problem you multiply a sum of money (21¢) by a number (36).

Tell the class each step in finding 36 times 21 cents. Remember to use a dollar sign and a decimal point to show the dollars and cents.

Say the answers correctly and quickly.

- |                       |                    |                    |
|-----------------------|--------------------|--------------------|
| 1. $6 \times 5 + 4 =$ | $7 \times 6 + 6 =$ | $3 \times 7 + 6 =$ |
| $7 \times 3 + 2 =$    | $8 \times 3 + 5 =$ | $9 \times 3 + 4 =$ |
| $9 \times 1 + 7 =$    | $5 \times 9 + 7 =$ | $7 \times 8 + 6 =$ |
| $8 \times 7 + 4 =$    | $4 \times 4 + 9 =$ | $2 \times 9 + 8 =$ |

Copy these examples and find the products. Do not point off cents in the product unless cents are also in the number multiplied.

2.	$\begin{array}{r} 74 \\ 24 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ 81 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ 53 \\ \hline \end{array}$	$\begin{array}{r} 45 \\ 76 \\ \hline \end{array}$	$\begin{array}{r} 92 \\ 54 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ 83 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ 56 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ 37 \\ \hline \end{array}$
----	---	---	---	---	---	---	---	---

3.	$\begin{array}{r} 93 \\ 64 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ 45 \\ \hline \end{array}$	$\begin{array}{r} 77 \\ 68 \\ \hline \end{array}$	$\begin{array}{r} 95 \\ 38 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ 76 \\ \hline \end{array}$	$\begin{array}{r} 53 \\ 67 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ 59 \\ \hline \end{array}$	$\begin{array}{r} 76 \\ 19 \\ \hline \end{array}$
----	---	---	---	---	---	---	---	---

4.	$\begin{array}{r} 27 \\ 86 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ 97 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ 75 \\ \hline \end{array}$	$\begin{array}{r} 47 \\ 64 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ 45 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ 85 \\ \hline \end{array}$	$\begin{array}{r} 59 \\ 72 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ 67 \\ \hline \end{array}$
----	---	---	---	---	---	---	---	---

5.	$\begin{array}{r} 76\text{¢} \\ 88 \\ \hline \end{array}$	$\begin{array}{r} 37\text{¢} \\ 45 \\ \hline \end{array}$	$\begin{array}{r} 77\text{¢} \\ 67 \\ \hline \end{array}$	$\begin{array}{r} 32\text{¢} \\ 68 \\ \hline \end{array}$	$\begin{array}{r} 37\text{¢} \\ 76 \\ \hline \end{array}$	$\begin{array}{r} 88\text{¢} \\ 24 \\ \hline \end{array}$	$\begin{array}{r} 95\text{¢} \\ 76 \\ \hline \end{array}$	$\begin{array}{r} 89\text{¢} \\ 39 \\ \hline \end{array}$
----	---	---	---	---	---	---	---	---

6.	$\begin{array}{r} \$217. \\ 7 \\ \hline \$1519. \end{array}$	$\begin{array}{r} \$186. \\ 5 \\ \hline \end{array}$	$\begin{array}{r} \$908. \\ 6 \\ \hline \end{array}$	$\begin{array}{r} \$407. \\ 8 \\ \hline \end{array}$	$\begin{array}{r} \$195. \\ 9 \\ \hline \end{array}$
----	--	--	--	--	--

7. Copy and fill the blanks correctly.

$17 + 8 =$	$54 - 7 =$	$32 \times 4 =$	$\frac{1}{2}$ dollar = _____ ¢
$13 \times 2 =$	$52 + 9 =$	$11 - 8 =$	$30\text{¢} =$ _____ dimes
$6 \times 8 =$	$16 \times 8 =$	$16 - 7 =$	5 nickels = _____ ¢
$28 \times 4 =$	$36 - 7 =$	$23 + 8 =$	12 in. = _____ ft.



### Making a Merry Christmas

In each problem tell if you should add, subtract, or multiply to solve it. Tell why. Then find the answer to the question in the problem.

1. Mr. Ladd sold 35 Christmas trees at an average price of \$.98 a tree. How much did he receive for the trees?

2. The first-grade children made 18 paper chains to decorate their room. Each chain was 14 feet long. How many feet of chain did they make?

3. The Curtis family received their money from the Christmas Savings Club. Mr. Curtis had \$100; Mrs. Curtis had \$91; Tom had \$30; Lucy had \$40. How much did they all have?

4. Mr. Curtis gave \$4 of his Christmas money to the Salvation Army Christmas fund. Mrs. Curtis gave \$4, and Tom and Lucy gave \$1 each. How much did each have left from the Christmas savings?

1. Mr. Hall drives a cross-country bus. He averages 2138 miles a month. How many miles does he drive the bus in 12 months?

To find how many miles he drives in 12 months, multiply 2,138 by 12.

$$\begin{array}{r} 2138 \\ 12 \\ \hline 4276 \\ 2138 \\ \hline 25656 \end{array}$$

Step 1. Write the multiplier under the multiplicand. Keep units under units and tens under tens.

Step 2. Multiply by 2. Write the product 4276 with the 6 under the 2 you multiplied by.

Step 3. Multiply by 1. Write the product 2138 with the 8 under the 1 you multiplied by.

Step 4. Add the two products as written.

The product is 25,656.

Mr. Hall drives the bus 25,656 miles in 12 months.

Find the products in each example below.

$$\begin{array}{r} 2. \quad 465 \quad 121 \quad 865 \quad 287 \quad 478 \quad 296 \\ \quad \underline{51} \quad \underline{41} \quad \underline{21} \quad \underline{71} \quad \underline{31} \quad \underline{61} \end{array}$$

Begin at the right and multiply each figure of the multiplicand by each figure in the multiplier. Place the right-hand figure of each product under the figure that you multiplied by. Add the products as written.

Write the answers for this exercise on paper as quickly as you can. Being able to do these quickly will help you in harder multiplication.

1. (a)  $7 \times 1 + 4 =$        $5 \times 7 + 4 =$        $9 \times 7 + 8 =$   
(b)  $6 \times 3 + 4 =$        $6 \times 4 + 2 =$        $5 \times 3 + 3 =$   
(c)  $9 \times 5 + 3 =$        $9 \times 6 + 4 =$        $3 \times 6 + 1 =$   
(d)  $8 \times 6 + 6 =$        $8 \times 5 + 5 =$        $4 \times 9 + 1 =$   
(e)  $6 \times 7 + 5 =$        $4 \times 4 + 2 =$        $4 \times 7 + 3 =$   
(f)  $5 \times 8 + 2 =$        $6 \times 5 + 4 =$        $8 \times 7 + 7 =$

Try to find the products for the examples below without making a mistake.

2. 
$$\begin{array}{r} 1516 \\ 17 \\ \hline \end{array}$$
      
$$\begin{array}{r} 3358 \\ 32 \\ \hline \end{array}$$
      
$$\begin{array}{r} 2246 \\ 83 \\ \hline \end{array}$$
      
$$\begin{array}{r} 1263 \\ 24 \\ \hline \end{array}$$
      
$$\begin{array}{r} 3458 \\ 45 \\ \hline \end{array}$$
      
$$\begin{array}{r} 2632 \\ 35 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 126 \\ 27 \\ \hline \end{array}$$
      
$$\begin{array}{r} 378 \\ 35 \\ \hline \end{array}$$
      
$$\begin{array}{r} 438 \\ 76 \\ \hline \end{array}$$
      
$$\begin{array}{r} 654 \\ 39 \\ \hline \end{array}$$
      
$$\begin{array}{r} 568 \\ 58 \\ \hline \end{array}$$
      
$$\begin{array}{r} 946 \\ 49 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 579 \\ 26 \\ \hline \end{array}$$
      
$$\begin{array}{r} 318 \\ 19 \\ \hline \end{array}$$
      
$$\begin{array}{r} 852 \\ 52 \\ \hline \end{array}$$
      
$$\begin{array}{r} 298 \\ 67 \\ \hline \end{array}$$
      
$$\begin{array}{r} 934 \\ 85 \\ \hline \end{array}$$
      
$$\begin{array}{r} 279 \\ 79 \\ \hline \end{array}$$

Find the products and check your answers.

5. 
$$\begin{array}{r} 93 \\ 46 \\ \hline \end{array}$$
      
$$\begin{array}{r} 65 \\ 53 \\ \hline \end{array}$$
      
$$\begin{array}{r} 37 \\ 48 \\ \hline \end{array}$$
      
$$\begin{array}{r} 36 \\ 39 \\ \hline \end{array}$$
      
$$\begin{array}{r} 58 \\ 74 \\ \hline \end{array}$$
      
$$\begin{array}{r} 45 \\ 67 \\ \hline \end{array}$$
      
$$\begin{array}{r} 94 \\ 96 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 27 \\ 77 \\ \hline \end{array}$$
      
$$\begin{array}{r} 63 \\ 49 \\ \hline \end{array}$$
      
$$\begin{array}{r} 35 \\ 93 \\ \hline \end{array}$$
      
$$\begin{array}{r} 99 \\ 67 \\ \hline \end{array}$$
      
$$\begin{array}{r} 39 \\ 53 \\ \hline \end{array}$$
      
$$\begin{array}{r} 75 \\ 79 \\ \hline \end{array}$$
      
$$\begin{array}{r} 88 \\ 58 \\ \hline \end{array}$$



### Buying Basket Ball Outfits

The Mothers' Club of the Lakewood school earned money and bought 12 basket ball outfits to be used by the girls of the school.

1. Find how much they paid for one complete outfit at these prices:

\$3.25 for a wool suit

\$ .35 for a headband

\$2.00 for a pair of shoes

\$ .20 for a pair of ankle socks

2. Find how much they paid for

(a) the 12 wool suits.

(b) the 12 headbands.

(c) the 12 pairs of shoes.

(d) the 12 pairs of ankle socks.

3. Find how much they paid for the 12 complete outfits. Do this by using your answer to problem 1 or your answers to problem 2.

4. Last year the Mothers' Club bought the boys of the school 13 basket ball outfits.

Find how much they paid for one complete outfit at these prices:

\$3.50 for a suit

\$2.65 for a pair of shoes

\$ .35 for a belt

\$ .30 for a pair of socks

\$ .75 for a pair of knee pads

5. Use your answer to problem 4 to find how much they paid for the 13 complete outfits.

6. Find how much they paid for

(a) the 13 wool suits.

(b) the 13 pairs of shoes.

(c) the 13 belts.

(d) the 13 pairs of socks.

(e) the 13 pairs of knee pads.

7. Now use your answers to problem 6 to find how much the Mothers' Club paid for the 13 complete outfits. Your answer should be the same as in problem 5.

8. Use your answers on pages 84 and 85 to find how much more the Mothers' Club paid for the boys' outfits than for the girls' outfits.

Using Numbers in Problems  
Advertising in the Newspapers

**SELLING ENTIRE STOCK  
OF  
LADIES' AND GIRLS' COATS!**

**LADIES' COATS IN FOUR GREATLY REDUCED  
PRICE LOTS**

**Lot 1**

35 Coats at \$27.00  
Regular Price, \$49.50

**Lot 2**

16 Coats at \$32.00  
Regular Price, \$65.00

**Lot 3**

18 Coats at \$37.00  
Regular Price, \$79.50

**Lot 4**

28 Coats at \$47.00  
Regular Price, \$95.00

**GIRLS' COATS AT THREE PRICES**

**Lot 5**

11 Coats at \$4.98  
Regular Price, \$7.00

**Lot 6**

12 Coats at \$8.98  
Regular Price, \$10.50

**Lot 7**

15 Coats at \$12.98  
Regular Price, \$19.50

1. When you know the number of coats and the price of one coat, how can you tell how much the store should get for all the coats in a lot?

**The Record of the Coat Sale**

2. Prepare a record sheet for the coat sale like the one below.

**PRICES IN THE COAT SALE**

Lot	Coats Sold	Regular Price of Each Coat	Totals at Regular Prices	Sale Price of Each Coat	Totals at Sale Prices
Lot 1	35	\$49.50		\$27.00	
Lot 2	16	\$65.00		\$32.00	
Lot 3	18	\$79.50		\$37.00	
Lot 4	28	\$95.00		\$47.00	
Lot 5	11	\$ 7.00		\$ 4.98	
Lot 6	12	\$10.50		\$ 8.98	
Lot 7	15	\$19.50		\$12.98	
Totals					

3. How much would 35 coats sell for at the regular price of \$49.50 each? Write this answer on the first line of the column "Totals at Regular Prices" on your paper.

4. How much would 35 coats sell for at the sale price of \$27.00 each? Write this answer on the first line of the column with the heading "Totals at Sale Prices" on your paper.

5. Fill the other blanks showing what all the coats in each lot would sell for at the regular prices and at the sale prices.

## 88    **Thinking What You Should Do in the Problem**

### **More about the Coat Sale**

Look at the advertisement and the record of the coat sale. Then answer these questions.

1. How can you find the total number of coats to be sold? How many coats are to be sold?

2. How can you find how much money the store would get if all the coats were sold at the regular prices? How much would the store get at those prices?

3. How can you find how much money the store would get if all the coats were sold at the sale prices? How much would the store get for the coats at the sale prices?

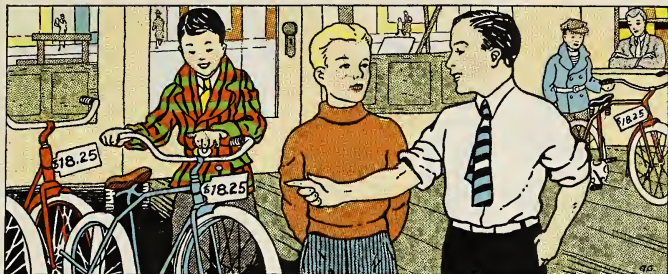
4. When you know the regular price and the sale price of a coat, how can you find how much you can save at the sale price?

5. Find how much can be saved at this sale if you buy one coat in lot 1.

6. Find how much you can save at this sale if you buy one coat in lot 5. How much can you save if you buy one coat in lot 3?

7. Make up three problems about buying coats at this sale. Make one problem on buying a coat in lot 4, one about buying a coat in lot 6, and one in lot 7.

8. How much money would be saved in buying the three coats you told about in problem 7?



## How People Use Multiplication

1. The Taylor Hardware Company sold 75 bicycles last week at a special price of \$18.25 each. How much money did the store get for these bicycles?

2. Roger's father has 320 acres in wheat. If the wheat averages 35 bushels to the acre, how many bushels of wheat will that make?

3. Andrew works in a garage. He gets \$75 a month. How much will he earn in 36 months?

4. Copy and find the products.

$\begin{array}{r} 326 \\ 35 \\ \hline \end{array}$	$\begin{array}{r} 481 \\ 63 \\ \hline \end{array}$	$\begin{array}{r} 579 \\ 47 \\ \hline \end{array}$	$\begin{array}{r} 138 \\ 96 \\ \hline \end{array}$	$\begin{array}{r} 1246 \\ 28 \\ \hline \end{array}$	$\begin{array}{r} 3571 \\ 36 \\ \hline \end{array}$	$\begin{array}{r} 7429 \\ 43 \\ \hline \end{array}$
--	--	--	--	---	---	---

$\begin{array}{r} 273 \\ 25 \\ \hline \end{array}$	$\begin{array}{r} 367 \\ 46 \\ \hline \end{array}$	$\begin{array}{r} 724 \\ 37 \\ \hline \end{array}$	$\begin{array}{r} 646 \\ 29 \\ \hline \end{array}$	$\begin{array}{r} 3764 \\ 52 \\ \hline \end{array}$	$\begin{array}{r} 8159 \\ 95 \\ \hline \end{array}$	$\begin{array}{r} 7342 \\ 57 \\ \hline \end{array}$
--	--	--	--	---	---	---

$\begin{array}{r} 928 \\ 35 \\ \hline \end{array}$	$\begin{array}{r} 475 \\ 83 \\ \hline \end{array}$	$\begin{array}{r} 581 \\ 49 \\ \hline \end{array}$	$\begin{array}{r} 846 \\ 57 \\ \hline \end{array}$	$\begin{array}{r} 2473 \\ 75 \\ \hline \end{array}$	$\begin{array}{r} 4692 \\ 64 \\ \hline \end{array}$	$\begin{array}{r} 7598 \\ 73 \\ \hline \end{array}$
--	--	--	--	---	---	---

## 90 More Practice with Two-Figure Multipliers



Joe helped Mr. Johnson at a sale in his store. Then they checked up to see what things had been sold and how much money had been taken in.

### 1. How much did they get for these things?

55 shirts at \$1.35 each

49 scarfs at \$1.53 each

17 dresses at \$3.75 each

38 sweaters at \$1.37 each

94 caps at \$.39 each

27 pairs of gloves at \$2.95 a pair

58 ties at \$.98 each

64 pairs of shoes at \$4.79 a pair

2. Find the products. Use the decimal point and the dollar sign only when they are needed.

25¢	39¢	49¢	19¢	\$99.	\$74.	\$79.
<u>24</u>	<u>18</u>	<u>36</u>	<u>72</u>	<u>48</u>	<u>84</u>	<u>15</u>

59¢	\$98.	19¢	45	\$67.	\$93.	78
<u>36</u>	<u>54</u>	<u>96</u>	<u>79</u>	<u>68</u>	<u>72</u>	<u>76</u>

1. Copy these examples and write the products.

- (a) Ten 5's = 10 times 5 = 5 multiplied by 10 =  
 (b) Ten 2's = 10 times 2 = 2 multiplied by 10 =  
 (c) Ten 4's = 10 times 4 = 4 multiplied by 10 =  
 (d) Ten 7's = 10 times 7 = 7 multiplied by 10 =  
 (e) Ten 3's = 10 times 3 = 3 multiplied by 10 =  
 (f) Ten 9's = 10 times 9 = 9 multiplied by 10 =

2. Look at exercise 1. Which number is the multiplier in each example? Which number is the multiplicand in each example?

3. This example shows two ways of multiplying numbers by 10.

24	24
10	10
<hr/>	<hr/>
00	240
24	
<hr/>	
240	

**Long Way:** Like multiplying by any two-figure number.

**Short Way:** By placing a zero at the end of the number.

4. Multiply by 10 in the short way.

67      43      72      58      36      84      96

5. Say the word to fill the blank correctly.

To multiply a number by 10, place \_\_\_\_\_ at the right of the number.

6. Multiply by 10. Use the short way.

75      49      365      721      292      864      426

## 92 Multiplying by Numbers Ending in 0

1. Read each pair of examples carefully, then answer the questions below. Remember to read  $\times$  by saying times.

$$(a) \quad 6 \times 3 = 18 \quad (a) \quad 5 \times 9 = 45 \quad (a) \quad 4 \times 8 = 32$$

$$(b) \quad 60 \times 3 = 180 \quad (b) \quad 50 \times 9 = 450 \quad (b) \quad 40 \times 8 = 320$$

In each pair of examples above how is (b) like (a)? How are the multipliers different in (b) and in (a)? How are the products different?

2. Use the new way for 0 in the multiplier. Say the products quickly.

$$40 \times 4 = \quad 90 \times 6 = \quad 60 \times 5 = \quad 50 \times 7 =$$

$$60 \times 6 = \quad 70 \times 7 = \quad 40 \times 9 = \quad 80 \times 9 =$$

3. Read these two ways of multiplying.

$\begin{array}{r} 32 \\ 20 \\ \hline 00 \\ 64 \\ \hline 640 \end{array}$
--

**Long Way:** Like multiplying by any two-figure number.

**Short Way:** Place 0 in the product under the 0 of the multiplier. Then finish the multiplication.

How is the short way different from the long way?

4. Multiply the short way in these examples.

$\begin{array}{r} 32 \\ 30 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ 20 \\ \hline \end{array}$	$\begin{array}{r} 21 \\ 40 \\ \hline \end{array}$	$\begin{array}{r} 32 \\ 40 \\ \hline \end{array}$	$\begin{array}{r} 41 \\ 60 \\ \hline \end{array}$	$\begin{array}{r} 71 \\ 50 \\ \hline \end{array}$
---	---	---	---	---	---

When zero (0) is in units' place in the multiplier, write zero (0) in units' place in the product. Then finish the multiplication.

1. Say the products as quickly as you can.

four 6's	three 8's	three 9's	eight 8's
nine 3's	six 5's	six 8's	four 9's
six 4's	seven 9's	seven 7's	three 5's

2. How many 7's are in 35? 42? 63? 49? 56?

3. How many 9's are in 63? 54? 36? 45? 72?

4. How many 6's are in 36? 24? 42? 48? 54?

5. Read and say the answers.

$6 \times 6 + 4 =$	$3 \times 7 + 9 =$	$4 \times 4 + 9 =$
$6 \times 3 + 7 =$	$4 \times 8 + 6 =$	$9 \times 6 + 7 =$
$7 \times 4 + 3 =$	$9 \times 9 + 3 =$	$7 \times 8 + 5 =$
$6 \times 7 + 8 =$	$5 \times 9 + 7 =$	$3 \times 10 + 6 =$

6. Without using a pencil, tell the cost of these things:

2 yds. of ribbon, 30¢ a yd.

6 yds. of cloth, 50¢ a yd.

7 cards of buttons, 20¢ a card

9 baseball caps, 50¢ each

4 baseball bats, 60¢ each

8 baseballs, 40¢ each



7. Multiply each number by 10 in the short way:

63    47    82    106    752    327    38    91    623

8. Multiply by 40 in the short way:

9    6    8    7    22    12    3    11    4    32

## Review in Addition, Subtraction, and Multiplication

Write the answers on a folded paper.

Add and check.

- |    |            |            |             |             |              |
|----|------------|------------|-------------|-------------|--------------|
| 1. | 362        | 604        | 3081        | 5201        | \$22.09      |
|    | 507        | 532        | 6167        | 3679        | 91.75        |
|    | 918        | 790        | 5930        | 8992        | 80.57        |
|    | <u>450</u> | <u>656</u> | <u>7406</u> | <u>9047</u> | <u>47.62</u> |

Subtract and check.

- |    |              |             |              |             |              |
|----|--------------|-------------|--------------|-------------|--------------|
| 2. | 7012         | 5880        | \$93.06      | 8470        | 5082         |
|    | <u>484</u>   | <u>2793</u> | <u>53.78</u> | <u>4366</u> | <u>3995</u>  |
| 3. | \$91.04      | 2677        | 8924         | 7023        | \$64.96      |
|    | <u>65.87</u> | <u>2098</u> | <u>6809</u>  | <u>4785</u> | <u>55.80</u> |

If you had any answers wrong in the examples above, add or subtract again.

Copy these examples and multiply.

- |    |           |           |           |           |           |           |
|----|-----------|-----------|-----------|-----------|-----------|-----------|
| 4. | 7325      | 6736      | 2477      | 4669      | 7543      | 8159      |
|    | <u>42</u> | <u>54</u> | <u>63</u> | <u>72</u> | <u>58</u> | <u>95</u> |

Check your answers as the teacher reads the correct answers.

**Addition** is finding the sum of two or more numbers.

**Subtraction** is taking one number from another to find the remainder or difference.

**Multiplication** is a short way of adding equal numbers.

## KNOWING THAT YOU KNOW

Copy and write the products on a paper.

### Test 1. Multipliers Ending in 0

Multiply each of these numbers by 20.

9            7            33            46            821            356

Multiply each of the above numbers by 70.

### Test 2. Adding the Tens to the Next Product

$\begin{array}{r} 26 \\ \underline{8} \end{array}$	$\begin{array}{r} 45 \\ \underline{9} \end{array}$	$\begin{array}{r} 67 \\ \underline{6} \end{array}$	$\begin{array}{r} 54 \\ \underline{3} \end{array}$	$\begin{array}{r} 89 \\ \underline{7} \end{array}$	$\begin{array}{r} 78 \\ \underline{4} \end{array}$	$\begin{array}{r} 83 \\ \underline{5} \end{array}$
--	--	--	--	--	--	--

$\begin{array}{r} 918 \\ \underline{9} \end{array}$	$\begin{array}{r} 706 \\ \underline{6} \end{array}$	$\begin{array}{r} 834 \\ \underline{8} \end{array}$	$\begin{array}{r} 673 \\ \underline{7} \end{array}$	$\begin{array}{r} 549 \\ \underline{5} \end{array}$	$\begin{array}{r} 840 \\ \underline{4} \end{array}$
---	---	---	---	---	---

### Test 3. Two-Figure Multipliers

$\begin{array}{r} 57 \\ \underline{19} \end{array}$	$\begin{array}{r} 79 \\ \underline{35} \end{array}$	$\begin{array}{r} 96 \\ \underline{28} \end{array}$	$\begin{array}{r} 49 \\ \underline{53} \end{array}$	$\begin{array}{r} 38 \\ \underline{29} \end{array}$	$\begin{array}{r} 63 \\ \underline{47} \end{array}$	$\begin{array}{r} 97 \\ \underline{64} \end{array}$
---	---	---	---	---	---	---

$\begin{array}{r} 384 \\ \underline{97} \end{array}$	$\begin{array}{r} 736 \\ \underline{54} \end{array}$	$\begin{array}{r} 945 \\ \underline{38} \end{array}$	$\begin{array}{r} 9120 \\ \underline{86} \end{array}$	$\begin{array}{r} 7489 \\ \underline{92} \end{array}$	$\begin{array}{r} 8056 \\ \underline{84} \end{array}$
--	--	--	---	---	---

### Test 4. Multiplying Money Numbers

$\begin{array}{r} \$2.60 \\ \underline{49} \end{array}$	$\begin{array}{r} \$8.19 \\ \underline{73} \end{array}$	$\begin{array}{r} \$6.27 \\ \underline{69} \end{array}$	$\begin{array}{r} \$54.95 \\ \underline{38} \end{array}$	$\begin{array}{r} \$46.09 \\ \underline{74} \end{array}$	$\begin{array}{r} \$82.65 \\ \underline{57} \end{array}$
---	---	---	--	--	--

If you made mistakes on any of these tests, work the exercises of the same number on pages 96 and 97. If you made no mistakes, skip pages 96 and 97.

**HELPING YOU TO KNOW**

Copy and write the products on a paper.

**Exercise 1. Multipliers Ending in 0**

Multiply each of these numbers by 20 in the short way.

7            9            46            33            356            821

Multiply each of the above numbers by 70.

**Exercise 2. Adding the Tens to the Next Product**

54            83            89            26            78            67            45  
3            5            7            8            4            6            9

549            834            840            673            706            918  
5            8            4            7            6            9

**Exercise 3. Two-Figure Multipliers**

38            97            570            63            79            49            96  
29            64            19            47            35            53            28

945            7489            736            8056            384            9120  
38            92            54            84            97            86

**Exercise 4. Multiplying Money Numbers**

Remember to place the dollar sign and decimal point in your products.

\$46.09            \$54.95            \$2.60            \$82.65            \$6.27            \$8.19  
74            38            49            57            69            73

## HELPING YOU TO KNOW

**Exercise 1. Multipliers Ending in 0**

Say the steps in these examples.

Multiply 17 by 10.

$$\begin{array}{r}
 17 \\
 10 \\
 \hline
 00 \\
 170 \\
 \hline
 170
 \end{array}$$

Multiply 12 by 30.

$$\begin{array}{r}
 12 \\
 30 \\
 \hline
 00 \\
 360 \\
 \hline
 360
 \end{array}$$

**Exercise 2. Adding the Tens to the Next Product**

$6 \times 7 + 4 =$

$9 \times 9 + 5 =$

$7 \times 9 + 5 =$

$4 \times 8 + 2 =$

$8 \times 6 + 3 =$

$3 \times 8 + 4 =$

**Exercise 3. Two-Figure Multipliers**

Multiply. Read, and say the missing words.

$$\begin{array}{r}
 632 \\
 23 \\
 \hline
 1896 \\
 1264 \\
 \hline
 14536
 \end{array}$$

Multiply by each figure of the \_\_\_\_\_  
beginning with the \_\_\_\_\_ figure.Place each product with its right-hand  
figure under the figure multiplied by.

Add the products as written.

$49 \times 527 =$

$63 \times 276 =$

$75 \times 498 =$

**Exercise 4. Multiplying Money Numbers**

Copy and multiply. Use \$ and decimal point.

$$\begin{array}{r}
 \$14.25 \\
 36 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \$59.50 \\
 42 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \$92.15 \\
 29 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \$12.05 \\
 67 \\
 \hline
 \end{array}$$

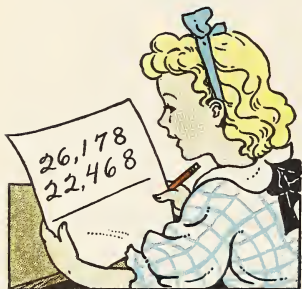
$$\begin{array}{r}
 \$8.90 \\
 23 \\
 \hline
 \end{array}$$

## THE GOAL

For the pupils who made no mistakes on page 95.

### Family Automobile Trips

1. Last summer the Walker family were gone 14 days on an automobile trip. They averaged 265 miles a day. How many miles did they drive on their automobile trip?



2. Without hotel bills, their expenses averaged \$16.25 a day. How much was this for 14 days?

3. Mr. Walker usually bought 10 gallons of gas at a time. What is the cost of 10 gallons at 18¢ a gallon? At 16¢? 21¢?

4. When the Walkers left home, their speedometer read 22,468 miles. When they returned, it read 26,178 miles. How many miles had they traveled?

5. The Walkers' neighbors, the Allens, had traveled 4,675 miles on their trip. The Allens' speedometer showed 19,687 miles when they left home. What mileage should the speedometer show when they returned home?

## CHAPTER 6

### GETTING STARTED IN DIVISION

#### Dividing Numbers with Nothing Left



In the third grade you learned to divide by a one-figure number. Now you will have practice in doing that. You will also learn to do some of the other kinds of division problems.

1. How many 5¢ balloons can Roy buy for 25¢?

How many nickels in a quarter? Divide 25 by 5.

Tell how many balloons Roy can buy. Why?

2. There are 36 pupils in Miss Brown's class. If you divide them into 3 equal groups for games, how many pupils will be in each group?  $36 \div 3 = ?$

Divide: How many 3's in 3? 1.

Where do we put the 1?

Say the other step to finish.

How many pupils will be in each group?

$\begin{array}{r} 12 \\ 3 \overline{)36} \end{array}$
---

## 100 Signs and Names Used in Division

1. This sign  $\div$  means divided by. To read  $12 \div 4 = 3$  say, 12 divided by 4 equals 3.

2. You may also write  $12 \div 4 = 3$  in this way. Read it, 12 divided by 4 equals 3. The divisor is 4, the dividend is 12, and quotient is 3.

$\begin{array}{r} 3 \\ 4 \overline{)12} \end{array}$
--

The number divided is the dividend.

The number divided by is the divisor.

The answer in division is the quotient.

3. Read and say the quotients quickly.

$10 \div 2 =$	$18 \div 3 =$	$32 \div 4 =$	$30 \div 5 =$
$12 \div 3 =$	$10 \div 5 =$	$21 \div 3 =$	$25 \div 5 =$
$14 \div 2 =$	$20 \div 4 =$	$45 \div 5 =$	$24 \div 4 =$
$16 \div 4 =$	$24 \div 3 =$	$15 \div 3 =$	$28 \div 4 =$

4. Read the examples in exercise 3 again and name each divisor and each dividend.

5. Read these examples and give the quotients quickly. Then name each divisor and dividend.

$1 \overline{)10}$	$2 \overline{)16}$	$5 \overline{)20}$	$4 \overline{)48}$	$3 \overline{)66}$	$4 \overline{)36}$	$4 \overline{)84}$
$3 \overline{)30}$	$2 \overline{)28}$	$3 \overline{)99}$	$3 \overline{)27}$	$2 \overline{)68}$	$4 \overline{)44}$	$3 \overline{)63}$

6. Read and say the words to fill the blanks.

$9 = \underline{\quad} 3\text{'s}$	$36 = \underline{\quad} 4\text{'s}$	$35 = \underline{\quad} 5\text{'s}$
$16 = \underline{\quad} 4\text{'s}$	$18 = \underline{\quad} 3\text{'s}$	$24 = \underline{\quad} 3\text{'s}$
$24 = \underline{\quad} 4\text{'s}$	$25 = \underline{\quad} 5\text{'s}$	$28 = \underline{\quad} 4\text{'s}$

1. Take 18 books. Show how many piles of 6 books each you can make with 18 books. How many could you make with 12? 30? 24? 42? 48? 54?

2. Read this table of dividing by 6.

$6 \div 6 = 1$	$24 \div 6 = 4$	$42 \div 6 = 7$
$12 \div 6 = 2$	$30 \div 6 = 5$	$48 \div 6 = 8$
$18 \div 6 = 3$	$36 \div 6 = 6$	$54 \div 6 = 9$

3. Copy, and write the answers.

$48 = \underline{\quad} 6\text{'s}$

$54 = \underline{\quad} 6\text{'s}$

$18 = \underline{\quad} 6\text{'s}$

$36 = \underline{\quad} 6\text{'s}$

$24 = \underline{\quad} 6\text{'s}$

$42 = \underline{\quad} 6\text{'s}$

4. If you divide anything into 6 equal parts, what is each part called?

5. How can you find  $\frac{1}{6}$  of a number?

6. Copy, and write the answers.

$\frac{1}{6} \text{ of } 18 =$

$\frac{1}{6} \text{ of } 30 =$

$\frac{1}{6} \text{ of } 24 =$

$\frac{1}{6} \text{ of } 36 =$

$\frac{1}{6} \text{ of } 48 =$

$\frac{1}{6} \text{ of } 54 =$

7. Read this exercise and say the answers. The first line shows you how to read the other lines.

30 = five 6's	$\frac{1}{6}$ of 30 = 5	$30 \div 6 = 5$	$\overset{5}{6}\overline{)30}$
42 = $\underline{\quad}$ 6's	$\frac{1}{6}$ of 42 = $\underline{\quad}$	$42 \div 6 = \underline{\quad}$	$\overset{7}{6}\overline{)42}$
48 = $\underline{\quad}$ 6's	$\frac{1}{6}$ of 48 = $\underline{\quad}$	$48 \div 6 = \underline{\quad}$	$\overset{8}{6}\overline{)48}$
54 = $\underline{\quad}$ 6's	$\frac{1}{6}$ of 54 = $\underline{\quad}$	$54 \div 6 = \underline{\quad}$	$\overset{9}{6}\overline{)54}$
36 = $\underline{\quad}$ 6's	$\frac{1}{6}$ of 36 = $\underline{\quad}$	$36 \div 6 = \underline{\quad}$	$\overset{6}{6}\overline{)36}$

1. How many loaves of bread at 7¢ each can you buy for 14¢? 7¢? 28¢? 49¢? 63¢? 21¢? 56¢? 35¢? 42¢?

2. Read this table three or four times.

$$7 \div 7 = 1$$

$$14 \div 7 = 2$$

$$21 \div 7 = 3$$

$$28 \div 7 = 4$$

$$35 \div 7 = 5$$

$$42 \div 7 = 6$$

$$49 \div 7 = 7$$

$$56 \div 7 = 8$$

$$63 \div 7 = 9$$

3. Write the answers on your paper.

$$56 = \underline{\hspace{2cm}} 7\text{'s}$$

$$28 = \underline{\hspace{2cm}} 7\text{'s}$$

$$49 = \underline{\hspace{2cm}} 7\text{'s}$$

$$35 = \underline{\hspace{2cm}} 7\text{'s}$$

$$63 = \underline{\hspace{2cm}} 7\text{'s}$$

$$21 = \underline{\hspace{2cm}} 7\text{'s}$$

4. If you divided anything into 7 equal parts, what would each part be called?

5. How would you find  $\frac{1}{7}$  of a number?

6. Copy, and write the answers.

$$\frac{1}{7} \text{ of } 14 =$$

$$\frac{1}{7} \text{ of } 63 =$$

$$\frac{1}{7} \text{ of } 7 =$$

$$\frac{1}{7} \text{ of } 49 =$$

$$\frac{1}{7} \text{ of } 21 =$$

$$\frac{1}{7} \text{ of } 42 =$$

7. Read and say the answers. The first line shows you how to read the other lines.

$$49 = \text{seven } 7\text{'s}$$

$$\frac{1}{7} \text{ of } 49 = 7$$

$$49 \div 7 = 7$$

$$\begin{array}{r} 7 \\ \overline{)49} \end{array}$$

$$63 = \underline{\hspace{2cm}} 7\text{'s}$$

$$\frac{1}{7} \text{ of } 63 = \underline{\hspace{2cm}}$$

$$63 \div 7 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 7 \\ \overline{)63} \end{array}$$

$$35 = \underline{\hspace{2cm}} 7\text{'s}$$

$$\frac{1}{7} \text{ of } 35 = \underline{\hspace{2cm}}$$

$$35 \div 7 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 7 \\ \overline{)35} \end{array}$$

$$56 = \underline{\hspace{2cm}} 7\text{'s}$$

$$\frac{1}{7} \text{ of } 56 = \underline{\hspace{2cm}}$$

$$56 \div 7 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 7 \\ \overline{)56} \end{array}$$

$$28 = \underline{\hspace{2cm}} 7\text{'s}$$

$$\frac{1}{7} \text{ of } 28 = \underline{\hspace{2cm}}$$

$$28 \div 7 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 7 \\ \overline{)28} \end{array}$$



1. Claire bought 7 favors for the girls who were coming to her party. She paid 35 cents for the 7 favors. What was the price of each?

2. There were 42 children in the third grade in the Mark Twain school. The children sat in 7 equal rows. How many children were in each row?

3. One row of desks was taken out for use in another room. The teacher seated the 42 children in 6 equal rows. How many children were in each row then?

4. The flower store has 36 roses to sell in bunches of 6. How many of these bunches are there?

5. Seven boys picked 28 quarts of blackberries one Saturday afternoon. They divided the berries equally among them. How many quarts of berries did each boy get?

6. Turner's father paid 54 dollars for 6 sheep. How much did each sheep cost?

7. Ernest has to help set out 63 young peach trees in 7 equal rows. How many trees should be in each row?

1. Grapefruit are 8¢ each. How many can you buy for 24¢? How many 8's in 24?

2. Add by 8's to 72. Say 8, one 8; 16, two 8's.

3. Read this table several times. Then cover the answers and see if you can say them.

$$8 \div 8 = 1$$

$$16 \div 8 = 2$$

$$24 \div 8 = 3$$

$$32 \div 8 = 4$$

$$40 \div 8 = 5$$

$$48 \div 8 = 6$$

$$56 \div 8 = 7$$

$$64 \div 8 = 8$$

$$72 \div 8 = 9$$

4. How many melons at 8¢ each can you buy for 48¢? 64¢? 56¢? 72¢? 24¢?

5. Read and say the answers.

$$40 = \underline{\quad} 8's$$

$$32 = \underline{\quad} 8's$$

$$72 = \underline{\quad} 8's$$

$$56 = \underline{\quad} 8's$$

$$48 = \underline{\quad} 8's$$

$$64 = \underline{\quad} 8's$$

6. If you divide anything into 8 equal parts, what is each part called?

7. How would you find  $\frac{1}{8}$  of a number?

8. Copy, and write the answers.

$$\frac{1}{8} \text{ of } 24 =$$

$$\frac{1}{8} \text{ of } 40 =$$

$$\frac{1}{8} \text{ of } 32 =$$

$$\frac{1}{8} \text{ of } 64 =$$

$$\frac{1}{8} \text{ of } 72 =$$

$$\frac{1}{8} \text{ of } 48 =$$

9. Read, and say the answers.

$$56 = \text{seven } 8's$$

$$\frac{1}{8} \text{ of } 56 = 7$$

$$56 \div 8 = 7$$

$$\begin{array}{r} 7 \\ 8 \overline{)56} \end{array}$$

$$48 = \underline{\quad} 8's$$

$$\frac{1}{8} \text{ of } 48 = \underline{\quad}$$

$$48 \div 8 = \underline{\quad}$$

$$\begin{array}{r} 8 \\ 8 \overline{)48} \end{array}$$

$$64 = \underline{\quad} 8's$$

$$\frac{1}{8} \text{ of } 64 = \underline{\quad}$$

$$64 \div 8 = \underline{\quad}$$

$$\begin{array}{r} 8 \\ 8 \overline{)64} \end{array}$$

$$16 = \underline{\quad} 8's$$

$$\frac{1}{8} \text{ of } 16 = \underline{\quad}$$

$$16 \div 8 = \underline{\quad}$$

$$\begin{array}{r} 8 \\ 8 \overline{)16} \end{array}$$

$$72 = \underline{\quad} 8's$$

$$\frac{1}{8} \text{ of } 72 = \underline{\quad}$$

$$72 \div 8 = \underline{\quad}$$

$$\begin{array}{r} 9 \\ 8 \overline{)72} \end{array}$$

1. A can of soup costs 9¢. How many cans will you get for 18¢? How many 9's in 18?

2. Add by 9's to 90. Say 9, one 9; 18, two 9's.

3. Read this table several times, then cover the answers and see if you can say them.

$$9 \div 9 = 1$$

$$36 \div 9 = 4$$

$$63 \div 9 = 7$$

$$18 \div 9 = 2$$

$$45 \div 9 = 5$$

$$72 \div 9 = 8$$

$$27 \div 9 = 3$$

$$54 \div 9 = 6$$

$$81 \div 9 = 9$$

4. How many cans of soup at 9¢ each will cost 36¢? 54¢? 9¢? 27¢? 63¢? 81¢? 45¢? 18¢? 72¢? Look in the table above if you need help.

5. If you divide anything into 9 equal parts, what is each part called?

6. How many ninths are there in anything?

7. How would you find  $\frac{1}{9}$  of a number?

8. Copy, and write the answers.

$$\frac{1}{9} \text{ of } 18 =$$

$$\frac{1}{9} \text{ of } 45 =$$

$$\frac{1}{9} \text{ of } 27 =$$

$$\frac{1}{9} \text{ of } 9 =$$

$$\frac{1}{9} \text{ of } 63 =$$

$$\frac{1}{9} \text{ of } 81 =$$

$$\frac{1}{9} \text{ of } 72 =$$

$$\frac{1}{9} \text{ of } 36 =$$

$$\frac{1}{9} \text{ of } 54 =$$

9. Read, and say the answers.

$$18 = \text{two } 9\text{'s}$$

$$\frac{1}{9} \text{ of } 18 = 2$$

$$18 \div 9 = 2$$

$$\begin{array}{r} 2 \\ 9 \overline{)18} \end{array}$$

$$54 = \text{___ } 9\text{'s}$$

$$\frac{1}{9} \text{ of } 54 = \text{___}$$

$$54 \div 9 = \text{___}$$

$$\begin{array}{r} 6 \\ 9 \overline{)54} \end{array}$$

$$72 = \text{___ } 9\text{'s}$$

$$\frac{1}{9} \text{ of } 72 = \text{___}$$

$$72 \div 9 = \text{___}$$

$$\begin{array}{r} 8 \\ 9 \overline{)72} \end{array}$$

$$27 = \text{___ } 9\text{'s}$$

$$\frac{1}{9} \text{ of } 27 = \text{___}$$

$$27 \div 9 = \text{___}$$

$$\begin{array}{r} 3 \\ 9 \overline{)27} \end{array}$$

$$81 = \text{___ } 9\text{'s}$$

$$\frac{1}{9} \text{ of } 81 = \text{___}$$

$$81 \div 9 = \text{___}$$

$$\begin{array}{r} 9 \\ 9 \overline{)81} \end{array}$$



### Harold and Tom

1. Harold and Tom had two large baskets almost full of walnuts. They dipped the nuts out of the baskets with a quart measure. There were 56 quarts. How many pecks of walnuts did they have? Remember, 8 quarts are one peck.

2. Last summer Tom paid \$64 for some calves that he bought at \$8 each. How many did he buy?

3. On Market Day in November Harold sold \$72 worth of hogs at \$9 each. How many did he sell?

4. How many hogs would Harold need to sell at \$8 each to get \$72?

5. In Tom's garden there are 63 tulips. Tom likes to count. He counted the tulips by 9's. How many 9's are in 63?

6. Harold and Tom ride their bicycles about 9 miles an hour. How many hours will it take them to ride 27 miles from their home to Fairview?

**Using Multiplication and Division in Life**

Read each problem carefully to see if you should multiply or divide. Then find the answer.

1. Tom's father has 488 acres of corn land. He wishes to make 8 equal farms of it. How many acres should be in each farm?

2. The boy who sold tickets at the school ball game had 105 pennies. How many nickels should the bank give him for these pennies?

3. Some city blocks are 660 feet long. Eight of them are 1 mile. How many feet are in 1 mile?

4. A florist has 186 tulips in 6 equal rows. How many tulips are in each row?

5. It is 276 miles from Chicago to St. Louis by airplane. How many miles does a pilot fly in going from Chicago to St. Louis and back?

6. Do what the signs tell you in these examples. Write your answers on a paper.

$3 \times 953 =$

$155 \div 5 =$

$6 \times 346 =$

$5 \times 758 =$

$684 \div 2 =$

$7 \times 748 =$

$844 \div 4 =$

$8 \times 906 =$

$8 \times 246 =$

$8 \times 453 =$

$306 \div 6 =$

$497 \div 7 =$

$8 \times 780 =$

$8 \times 157 =$

$9 \times 296 =$

$255 \div 5 =$

$246 \div 6 =$

$9 \times 473 =$

$287 \div 7 =$

$168 \div 8 =$

$147 \div 7 =$

$248 \div 8 =$

$328 \div 8 =$

$279 \div 9 =$

## On the Dairy Farm



1. At milking time on Uncle Jack's dairy farm each man milks 8 of the 24 cows. How many men are needed to do the milking?

2. The milkman delivers 64 pint bottles of milk each day. How many quarts are the same as 64 pints?

$$2 \text{ pints (pt.)} = 1 \text{ quart (qt.)}$$

$$4 \text{ qt. or } 8 \text{ pt.} = 1 \text{ gallon (gal.)}$$

3. The milkman delivers milk in bottles daily to these three groceries.

Snyder's

Paul's Food Store

The Center Grocery

16 qt.

12 qt.

8 qt.

24 pt.

32 pt.

40 pt.

(a) How many gallons of milk are needed to fill each grocer's quart bottles every day?

(b) How many gallons of milk are needed to fill the pint bottles for each grocer?

4. Copy and finish these examples.

$$36 \text{ qt.} = \underline{\hspace{1cm}} \text{ gal.}$$

$$14 \text{ pt.} = \underline{\hspace{1cm}} \text{ qt.}$$

$$24 \text{ qt.} = \underline{\hspace{1cm}} \text{ gal.}$$

$$8 \text{ pt.} = \underline{\hspace{1cm}} \text{ gal.}$$

$$20 \text{ qt.} = \underline{\hspace{1cm}} \text{ gal.}$$

$$16 \text{ pt.} = \underline{\hspace{1cm}} \text{ gal.}$$

$$42 \text{ pt.} = \underline{\hspace{1cm}} \text{ qt.}$$

$$28 \text{ qt.} = \underline{\hspace{1cm}} \text{ gal.}$$

$$12 \text{ pt.} = \underline{\hspace{1cm}} \text{ qt.}$$

1. Read and say the right answer for each blank.

$18 \div 3 = \underline{\quad}$	$18 = \underline{\quad} 3\text{'s}$	$3\text{'s in } 18 = \underline{\quad}$
$48 \div 6 = \underline{\quad}$	$48 = \underline{\quad} 6\text{'s}$	$6\text{'s in } 48 = \underline{\quad}$
$21 \div \underline{\quad} = 3$	$21 = \underline{\quad} 7\text{'s}$	$\underline{\quad} \text{ in } 21 = 3$
$56 \div 8 = \underline{\quad}$	$56 = \underline{\quad} 8\text{'s}$	$\underline{\quad} \text{ in } 56 = 7$
$63 \div \underline{\quad} = 7$	$63 = \underline{\quad} 9\text{'s}$	$9\text{'s in } \underline{\quad} = 7$
$\underline{\quad} \div 5 = 9$	$\underline{\quad} = \text{nine } 5\text{'s}$	$5\text{'s in } 45 = \underline{\quad}$
$49 \div 7 = \underline{\quad}$	$49 = \underline{\quad} 7\text{'s}$	$7\text{'s in } 49 = \underline{\quad}$
$54 \div 6 = \underline{\quad}$	$\underline{\quad} = \text{nine } 6\text{'s}$	$6\text{'s in } \underline{\quad} = 9$

2. How many 3's are in 27? 15? 18? 9? 24?

3. How many 5's are in 25? 40? 30? 20? 35?

4. How many 7's are in 21? 28? 63? 56? 35?

5. How many 4's are in 16? 24? 36? 32? 28?

6. Read and say the answers.

$9 \div 3 =$	$20 = \underline{\quad} 4\text{'s}$	$18 = \underline{\quad} 3\text{'s}$	$45 \div 5 =$
$12 \div 6 =$	$35 = \underline{\quad} 7\text{'s}$	$42 = \underline{\quad} 6\text{'s}$	$32 \div 8 =$
$18 \div 2 =$	$16 = \underline{\quad} 8\text{'s}$	$25 = \underline{\quad} 5\text{'s}$	$27 \div 9 =$
$15 \div 5 =$	$27 = \underline{\quad} 9\text{'s}$	$18 = \underline{\quad} 6\text{'s}$	$54 \div 6 =$

7. Read and say the correct quotients.

$3 \overline{)21}$	$2 \overline{)16}$	$4 \overline{)24}$	$6 \overline{)42}$	$5 \overline{)35}$	$9 \overline{)54}$	$8 \overline{)64}$
$7 \overline{)28}$	$6 \overline{)18}$	$4 \overline{)32}$	$7 \overline{)63}$	$3 \overline{)18}$	$9 \overline{)72}$	$8 \overline{)56}$

8. Read and tell what number must be divided to give the quotient.

$\begin{array}{r} 3 \\ 8 \overline{) ?} \end{array}$	$\begin{array}{r} 6 \\ 2 \overline{) \quad} \end{array}$	$\begin{array}{r} 2 \\ 9 \overline{) \quad} \end{array}$	$\begin{array}{r} 5 \\ 7 \overline{) \quad} \end{array}$	$\begin{array}{r} 7 \\ 8 \overline{) \quad} \end{array}$	$\begin{array}{r} 9 \\ 9 \overline{) \quad} \end{array}$	$\begin{array}{r} 8 \\ 6 \overline{) \quad} \end{array}$
--	--	--	--	--	--	--

**Finding How Many Yards without a Yardstick**

1. Carl measured and found it is 120 feet from the street to the front door of the garage. His father asked him to find how many yards equal 120 feet. 3 feet are 1 yard.  $120 \div 3 = ?$

Carl saw that 3 is more than 1, the first figure of the dividend. He took 12 as the number to divide.

$\begin{array}{r} 40 \\ 3 \overline{)120} \end{array}$
--

How many 3's in 12? Four 3's = 12.

Write 4 in the quotient over the 2 of 12.

How many 3's in 0? None.

Write 0 in the quotient over 0.

The quotient is 40.

$$120 \text{ feet} = 40 \text{ yards.}$$

You should divide a number by 2 to find  $\frac{1}{2}$  of it.

2. Jimmie had 448 stamps. He sold one-half of them. How many did he sell?  $\frac{1}{2}$  of 448 = ?

3. Jerry has 480 stakes to drive to hold the wire around his father's young peach trees. He drives 4 stakes around each tree. How many trees can Jerry protect with the 480 stakes and the wire? How many 4's in 480?  $480 \div 4 = ?$

**We divide:**

- (a) To know how many times the divisor is found in the dividend; or
- (b) To find a part of the dividend.

## Dividing to Find Equal Parts of Numbers 111



1. Bob's father bought 68 young hens. One-half of the hens are Plymouth Rocks. How many Plymouth Rock hens did he buy?

2. Alice's new quilt will have 480 pieces in it when it is finished. She has sewed one-half of the pieces. How many pieces has Alice sewed?

3. Say the answers to these examples.

$\frac{1}{2}$ of 4 =	$\frac{1}{2}$ of 16 =	$\frac{1}{2}$ of 64 =	$\frac{1}{2}$ of 284 =
$\frac{1}{2}$ of 8 =	$\frac{1}{2}$ of 20 =	$\frac{1}{2}$ of 88 =	$\frac{1}{2}$ of 486 =
$\frac{1}{2}$ of 10 =	$\frac{1}{2}$ of 24 =	$\frac{1}{2}$ of 46 =	$\frac{1}{2}$ of 822 =

4. Make marks dividing a foot rule into four equal parts. Each part is how many inches long? How many inches are in  $\frac{1}{4}$  of 12 inches?

5. Say the answers.

$\frac{1}{4}$ of 4 =	$\frac{1}{4}$ of 8 =	$\frac{1}{4}$ of 20 =	$\frac{1}{4}$ of 44 =
$\frac{1}{4}$ of 12 =	$\frac{1}{4}$ of 16 =	$\frac{1}{4}$ of 84 =	$\frac{1}{4}$ of 24 =

6. How do you find  $\frac{1}{5}$  of a number?  $\frac{1}{6}$  of a number?

**Using Parts of Numbers**

1. When anything is divided into 2 equal parts, what is each part called? Into 4 equal parts?

2. What is each part called when anything is divided into 3 equal parts? 5 equal parts? 6 equal parts? Into 7? 8? 9? 10?

3. Vera had a ribbon one yard long. She cut off  $\frac{1}{4}$  of it. How many inches did she cut off? Remember, 36 inches equal 1 yard.

4. Louis had \$8 in his bank. He spent  $\frac{1}{4}$  of his money for school books. How many dollars did he spend for the books?

5. How many 5's are in 10? 20? 35? 45? 30? How much is  $\frac{1}{5}$  of each of these numbers?

6. Tom had 18 pennies. He lost  $\frac{1}{3}$  of them. How many pennies did he lose?

7. Read and say the answers.

$$\frac{1}{3} \text{ of 1 doz.} = \underline{\hspace{1cm}}$$

$$\frac{1}{3} \text{ of 1 ft.} = \underline{\hspace{1cm}} \text{ in.}$$

$$\frac{1}{2} \text{ of 1 bu.} = \underline{\hspace{1cm}} \text{ pk.}$$

$$\frac{1}{3} \text{ of 1 yd.} = \underline{\hspace{1cm}} \text{ ft.}$$

$$\frac{1}{4} \text{ of 1 doz.} = \underline{\hspace{1cm}}$$

$$\frac{1}{2} \text{ of 1 gal.} = \underline{\hspace{1cm}} \text{ pt.}$$

$$\frac{1}{4} \text{ of 1 gal.} = \underline{\hspace{1cm}} \text{ qt.}$$

$$\frac{1}{4} \text{ of 1 ft.} = \underline{\hspace{1cm}} \text{ in.}$$

$$8. \quad \frac{1}{2} \text{ of } 24 = ? \quad \frac{1}{4} \text{ of } 24 = ? \quad \frac{1}{3} \text{ of } 24 = ? \quad \frac{1}{6} \text{ of } 24 = ?$$

$$9. \quad \frac{1}{5} \text{ of } 30 = ? \quad \frac{1}{6} \text{ of } 30 = ? \quad \frac{1}{3} \text{ of } 30 = ?$$

10. What part of a nickel is 1 cent? What part of a dime is a nickel? What part of a quarter is a nickel? What part of a dime is 2 cents?

## Sharing Things with Others

1. Mr. Ross divided \$300 in prizes equally among 3 men. How much was each man's share?

To find how much each man's share was, divide 300 by 3.

$$\begin{array}{r} 100 \\ 3 \overline{)300} \end{array}$$

How many 3's in 3? 1. Write 1 over 3.

How many 3's in 0? 0. Write 0 over 0.

How many 3's in 0? 0. Write 0 over 0.

The quotient is 100.

Each man's share was \$100.

2. Ruth and Helen were picking cherries. They picked 204 quarts and divided them equally. How many quarts of cherries did each girl have?

To find how many quarts each girl had, divide 204 by 2.

$$\begin{array}{r} 102 \\ 2 \overline{)204} \end{array}$$

How many 2's in 2? 1. Write 1 over 2.

How many 2's in 0? 0. Write 0 over 0.

How many 2's in 4? 2. Write 2 over 4.

The quotient is 102.

Each girl had 102 quarts of cherries.

Zero divided by any number equals zero.

Copy and find the quotients.

$$3. \begin{array}{l} 4 \overline{)40} \quad 3 \overline{)30} \quad 3 \overline{)60} \quad 2 \overline{)140} \quad 5 \overline{)100} \quad 3 \overline{)120} \end{array}$$

$$4. \begin{array}{l} 4 \overline{)240} \quad 3 \overline{)180} \quad 4 \overline{)160} \quad 5 \overline{)200} \quad 3 \overline{)330} \quad 4 \overline{)480} \end{array}$$

$$5. \begin{array}{l} 2 \overline{)840} \quad 5 \overline{)205} \quad 4 \overline{)164} \quad 3 \overline{)603} \quad 5 \overline{)500} \quad 3 \overline{)600} \end{array}$$

1. See how quickly you can say the answers.

$45 + 8 =$	$6 \times 9 =$	$18 \div 3 =$	$16 + 7 + 5 =$
$8 \times 7 =$	five 8's =	$24 \div 8 =$	$37 + 6 + 9 =$
$49 \div 7 =$	$52 - 9 =$	seven 9's =	$8 \times 4 =$
six 8's =	$42 \div 6 =$	$3 \times 9 =$	$17 - 9 =$
$64 + 8 =$	$13 - 9 =$	$32 \div 8 =$	$16 + 8 + 9 =$
$4 \times 7 =$	$63 \div 7 =$	$16 - 7 =$	$18 + 5 + 8 =$

2. Read and say the word for each blank.

$28 = \underline{\quad} 7\text{'s}$	$24 = \underline{\quad} 3\text{'s}$	$30 \text{ ft.} = \underline{\quad} \text{yd.}$
$36 = \underline{\quad} 9\text{'s}$	$42 = \underline{\quad} 6\text{'s}$	$35\text{¢} = \underline{\quad} \text{nickels}$
$54 = \underline{\quad} 9\text{'s}$	$18 = \underline{\quad} 2\text{'s}$	$18 \text{ pt.} = \underline{\quad} \text{qt.}$
$40 = \underline{\quad} 8\text{'s}$	$35 = \underline{\quad} 7\text{'s}$	$32 \text{ qt.} = \underline{\quad} \text{gal.}$
$72 = \underline{\quad} 8\text{'s}$	$64 = \underline{\quad} 8\text{'s}$	$8 \text{ quarters} = \$\underline{\quad}$
$45 = \underline{\quad} 5\text{'s}$	$48 = \underline{\quad} 6\text{'s}$	$24 \text{ pk.} = \underline{\quad} \text{bu.}$

3. Multiply each of the following numbers by 6:

2	6	3	9	7	5	8	1	4
---	---	---	---	---	---	---	---	---

4. Add 9 to each of these numbers.

2	5	8	6	1	9	7	4	3
---	---	---	---	---	---	---	---	---

5. Divide each of these numbers by 7.

21	42	28	56	14	63	35	49	7
----	----	----	----	----	----	----	----	---

6. Subtract 8 from each of these numbers.

11	22	27	25	43	41	14	36	13
----	----	----	----	----	----	----	----	----

7. Try to say the sums in 2 minutes.

<u>5</u>	<u>9</u>	<u>7</u>	<u>8</u>	<u>6</u>	<u>8</u>	<u>7</u>	<u>2</u>	<u>4</u>
<u>8</u>	<u>7</u>	<u>7</u>	<u>9</u>	<u>5</u>	<u>7</u>	<u>6</u>	<u>9</u>	<u>6</u>
<u>7</u>	<u>5</u>	<u>8</u>	<u>4</u>	<u>9</u>	<u>5</u>	<u>9</u>	<u>8</u>	<u>7</u>

Write across the top of a paper in this way:

a                      b                      c                      d                      e                      f

1. Write the answer for each blank under the correct letter on your paper.

(a) There are\_\_\_\_hours from 7 A. M. to 3 P. M.

(b) There are\_\_\_\_hours from noon to midnight.

(c) Time from midnight to noon is marked\_\_\_\_.

(d) A quarter to 3 is written\_\_\_\_.

(e) Half past 7 is written\_\_\_\_.

(f) From Wednesday noon to Thursday at 4 P. M. is\_\_\_\_hours.

2. Below your answers to exercise 1, write on your paper the answers in this exercise:

(a) The month of January has\_\_\_\_days.  
December has\_\_\_\_days. March has\_\_\_\_days.

(b) The month of July has\_\_\_\_days. August has\_\_\_\_days. May has\_\_\_\_days.

(c) February has\_\_\_\_days. In leap years it has\_\_\_\_days.

(d) There are\_\_\_\_months in one year.

(e) Does New Year's Day always come on the same day of the week? \_\_\_\_

(f) The number of days from March 4 to July 4 is\_\_\_\_.

1. If you know the cost of one thing, what would you do to find the cost of any number of the same things?

2. How can you find how many of a certain thing you can buy if you know what it costs and how much money you have?

3. Walter saw a bicycle he wanted which cost \$13.50. He has \$10.00. How can he find out how much more money he needs to buy the bicycle?

4. Walter needs \$3.50 to buy the bicycle. If he saves 7¢ a day from his spending money, how long will it take him to save enough to buy the bicycle?

5. Walter can travel 4 miles an hour on his bicycle. He wants to make a trip of 12 miles. How can he find how long it will take him to make the trip?

6. Bob wants to know the average weight of the players on the baseball team. He knows the total weight of the 9 players on the team. How can he find the average weight?

7. Bob wants to play on the school's baseball team. He has to buy a suit, a baseball bat, a ball, and a catcher's glove. He saw a suit in a store window marked \$3.50. He can buy a catcher's glove for 75¢, a ball for 50¢, and a bat for 75¢. What will his entire outfit cost?

## Remembering the Four Kinds of Examples 117

1. See how quickly you can say the answers.

$8 + 9 + 5 =$	$17 - 8 =$	$36 \div 9 =$	$7 \times 6 =$
$18 - 9 =$	$10 \times 9 =$	$8 \text{ threes} =$	$49 + 7 =$
$6 + 7 + 9 =$	$6 \overline{)54}$	$36 - 8 =$	$25 + 7 =$
$4 \text{ sixes} =$	$56 \div 8 =$	$47 + 6 =$	$16 + 5 =$
$8 + 6 + 4 =$	$15 - 6 =$	$7 \overline{)28}$	$44 - 8 =$
$9 \overline{)81}$	$27 + 6 =$	$17 + 4 =$	$7 \text{ sixes} =$
$7 \times 3 + 6 =$	$4 \text{ eights} =$	$6 \overline{)42}$	$74 - 6 =$

2. Find the answers to as many of these examples as you can in 15 minutes.

(a) Add (b) Multiply (c) Subtract (d) Divide

$$\begin{array}{r} 46 \\ 75 \\ 34 \\ \underline{76} \end{array}$$

$$\begin{array}{r} 485 \\ \underline{\quad 4} \end{array}$$

$$\begin{array}{r} 825 \\ \underline{587} \end{array}$$

$$3 \overline{)639}$$

(e) Divide

$$4 \overline{)840}$$

(f) Multiply

$$\begin{array}{r} 673 \\ \underline{\quad 7} \end{array}$$

(g) Subtract

$$\begin{array}{r} 938 \\ \underline{279} \end{array}$$

(h) Add (i) Find the parts of these numbers:

$$\begin{array}{r} \$19.05 \\ 7.80 \\ 25.00 \\ \underline{78.75} \end{array}$$

$$\begin{array}{l} \frac{1}{2} \text{ of } 84 = \\ \frac{1}{2} \text{ of } 68 = \end{array}$$

$$\begin{array}{l} \frac{1}{2} \text{ of } 28 = \\ \frac{1}{2} \text{ of } 144 = \end{array}$$

(j) Copy and add:

$$\$76.25 + \$9.85 + \$35.50 =$$

(k) Subtract \$18.75 from \$275.40.

(l) Find  $\frac{1}{2}$  of \$128

$\frac{1}{2}$  of 260

$\frac{1}{2}$  of 648

## 118 Drill in the Four Kinds of Examples

1. See how quickly you can say the answers.

$57 + 6 =$	$7 \times 6 =$	six 8's =	seven 5's =
$6 \times 7 =$	$12 \div 4 =$	$35 \div 7 =$	$14 + 4 + 3 =$
$18 + 2 =$	$54 - 9 =$	nine 8's =	three 6's =
six 4's =	five 9's =	$3 \times 8 =$	$17 + 3 + 5 =$
nine 2's =	$18 + 7 =$	$4 \times 9 =$	seven 4's =
$18 \div 6 =$	$7 \times 9 =$	$56 \div 7 =$	eight 4's =
two 8's =	$16 \div 8 =$	$16 + 7 =$	three 9's =

2. Read and say the answer for each blank.

$28 = \underline{\quad} 4\text{'s}$	$72 = \underline{\quad} 9\text{'s}$	$20\text{¢} = \underline{\quad} \text{nickels}$
$27 = \underline{\quad} 9\text{'s}$	$24 = \underline{\quad} 8\text{'s}$	$35\text{¢} = \underline{\quad} \text{nickels}$
$54 = \underline{\quad} 6\text{'s}$	$42 = \underline{\quad} 7\text{'s}$	$50\text{¢} = \underline{\quad} \text{nickels}$
$32 = \underline{\quad} 8\text{'s}$	$18 = \underline{\quad} 6\text{'s}$	$45\text{¢} = \underline{\quad} \text{nickels}$

3. Multiply each of these numbers by 7:

2      6      3      9      7      5      8      1      4

4. Add 6 to each number:

3      4      7      9      1      6      8      5      2

5. Divide each number by 5:

15      50      60      55      25      30      35      20      40

6. Subtract 9 from each number:

13      25      19      15      17      11      12      16      18

7. Find the sums quickly. Then check.

4	7	8	9	5	9	4	8	5	7
7	6	9	6	7	5	9	7	7	8
<u>9</u>	<u>4</u>	<u>2</u>	<u>7</u>	<u>8</u>	<u>6</u>	<u>8</u>	<u>7</u>	<u>9</u>	<u>5</u>

1. Read, and say the number for each blank:

$5 \text{ gal.} = \underline{\hspace{1cm}} \text{ qt.}$

$35 \text{ cents} = \underline{\hspace{1cm}} \text{ nickels}$

$3 \text{ bu.} = \underline{\hspace{1cm}} \text{ pk.}$

$8 \text{ dimes} = \underline{\hspace{1cm}} \text{ cents}$

$6 \text{ qt.} = \underline{\hspace{1cm}} \text{ pt.}$

$1 \text{ nickel and}$

$4 \text{ yd.} = \underline{\hspace{1cm}} \text{ ft.}$

$2 \text{ dimes} = \underline{\hspace{1cm}} \text{ ¢}$

$5 \text{ nickels} = \underline{\hspace{1cm}} \text{ ¢}$

$10 \text{ nickels} = \underline{\hspace{1cm}} \text{ ¢}$

$1 \text{ dollar} = \underline{\hspace{1cm}} \text{ ¢}$

$12 \text{ quarters} = \underline{\hspace{1cm}} \text{ dollars}$

2. The examples below tell the cost of things and the money handed to the clerk to pay for them. Count out the change as the clerk would count it.

Cost of Things	Money Used	Change Needed	Cost of Things	Money Used	Change Needed
\$ .35	\$1.00	\$_____	\$ .54	\$ .75	\$_____
1.10	1.50	_____	.89	1.00	_____
2.25	3.00	_____	3.30	4.00	_____
1.85	2.00	_____	2.19	3.00	_____

3. Copy these examples and find the answers.

(a) Add      (b) Multiply      (c) Subtract      (d) Multiply

$905$

$6084$

$1409$

$2468$

$674$

$\underline{\hspace{1cm}} 9$

$\underline{\hspace{1cm}} 609$

$\underline{\hspace{1cm}} 5$

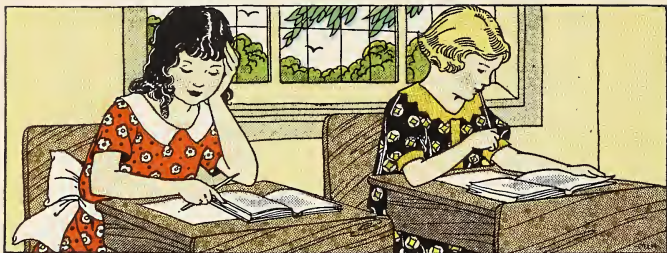
$376$

$\underline{\hspace{1cm}} 542$

(e) Subtract \$698.50 from \$1095.40

(f)  $48 = \underline{\hspace{1cm}} 6\text{'s}$       (g)  $235 \times 5 =$       (h)  $\$20 - \$9.75 =$

(i)  $\$6.75 + \$15.00 + \$29.63 + \$17.25 + \$5.00 =$



### **Thinking What to Do**

Rose and Bess are trying to think what they need to do in solving these problems. Read each problem and tell if you should add, subtract, multiply, or divide. Then solve the problem.

1. Mary weighs 71 pounds. She should weigh 62 pounds. How much is she overweight?

2. Arlene bought 2 dozen oranges at 35¢ a dozen. How much did the oranges cost?

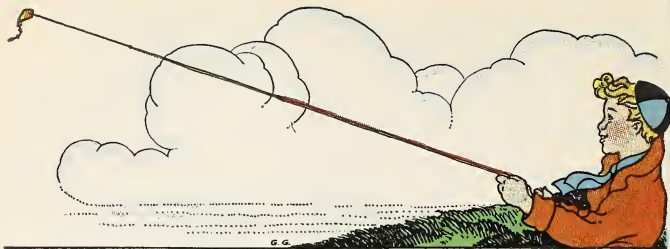
3. There are 4 colts on Tom's farm. The colts weigh 135, 219, 187, and 208 pounds. How much do these 4 colts weigh?

4. A pair of skates Ed wants will cost \$1.75. Ed has saved 85 cents. How much more money does he need to buy the skates?

5. There are 42 children in the fourth grade. They sit in 7 equal rows of desks. How many are in each row?

Read exercises 1 to 12 and say the answers.

1. What is the answer called in addition?
2. In a subtraction example, the subtrahend is the number to be \_\_\_\_\_.
3. The number divided is the \_\_\_\_\_ and the number divided by is the \_\_\_\_\_.
4. What is the answer called in multiplication?
5. A \_\_\_\_\_ separates cents from dollars in a number meaning money.
6. What is the answer in division called?
7. What is the answer in subtraction called?
8. The number from which the subtrahend is taken is the \_\_\_\_\_.
9. The sign which means division is  $\div$ . It is read \_\_\_\_\_.
10. The sign which means multiplication is  $\times$ . It is read \_\_\_\_\_.
11. The addition sign is  $+$ . It is read \_\_\_\_\_.
12. The sign of subtraction is  $-$ . We read it by saying \_\_\_\_\_.
13. Write an example with four addends.
14. Write an example in which the answer is called the product.
15. Write an example in which you use a minuend and a subtrahend. Mark the name of each number.



### **Some Ways of Using Numbers**

1. The string on Tom's kite is 27 yards long. One-third of it is red. How many yards are red?

2. Mary should weigh 74 pounds. She weighs 66 pounds. How much is she underweight?

3. June had 32 quilt blocks. She gave  $\frac{1}{4}$  of them to Alice. How many did she give to Alice?

4. How much will 12 three-cent stamps cost?

5. Mr. Roberts gave each of his three boys \$1.20. How much money did he give to the boys?

6. Strong's grocery had 19 bushels of potatoes. Mr. Strong put them up in bags holding a peck each. How many bags did he have to fill?

7. At 7¢ a pound, how many pounds of apples can you buy for 35¢?

8. Ned bought a reader for 36¢, a box of colored crayons for 15¢, and a ruler for 5¢. How much did all these things cost Ned?

**Why You Need to Know Arithmetic**

Read each of these problems and answer these questions: 1. What is wanted? 2. What is given? 3. What must I do? Then solve the problem.

1. Mary's mother bought some games and toys for her children. She paid \$2.75 for a table tennis set, \$1.79 for a checkerboard, \$.75 for a game of authors, \$1.25 for a jig-saw puzzle, and \$12.50 for an erector set. How much did all of these games and toys cost?

2. Frank asked his mother to buy him a fine electric train at \$18.25. His mother thought it would be better to get a chemistry outfit costing \$7.50. How much more would the electric train cost than the chemistry outfit?

3. Shoes that sold for \$6.75 a pair are offered at a sale for \$3.85 a pair. How much can be saved on a pair of shoes bought at the sale?

4. At the same sale Bobby got new clothes. He paid \$11.00 for a suit, \$1.25 for a cap, \$.35 for a pair of socks, \$1.25 for a shirt, \$1.00 for a belt, and \$5.50 for a pair of shoes. How much did Bobby's new clothes cost?

5. The sale lasted 4 days. The first day 794 people came, the second day 1,027 came, the third day 636 came, and the fourth day 938 came. How many people came to the sale in the 4 days?

**KNOWING THAT YOU KNOW**

Write the quotients on a folded paper.

**Test 1. Easy Division**

$4\overline{)24}$	$9\overline{)36}$	$8\overline{)48}$	$6\overline{)54}$	$7\overline{)63}$	$9\overline{)72}$	$7\overline{)56}$
$5\overline{)35}$	$3\overline{)21}$	$9\overline{)27}$	$4\overline{)32}$	$6\overline{)24}$	$7\overline{)49}$	$8\overline{)64}$

**Test 2. More Division**

$6\overline{)18}$	$5\overline{)35}$	$7\overline{)42}$	$9\overline{)81}$	$6\overline{)54}$	$9\overline{)27}$	$7\overline{)56}$
$7\overline{)63}$	$6\overline{)48}$	$8\overline{)72}$	$4\overline{)36}$	$6\overline{)42}$	$8\overline{)56}$	$9\overline{)63}$
$6\overline{)24}$	$5\overline{)45}$	$7\overline{)49}$	$3\overline{)21}$	$9\overline{)72}$	$8\overline{)64}$	$6\overline{)36}$

**Test 3. Division of Three-Figure Numbers**

$3\overline{)639}$	$4\overline{)844}$	$9\overline{)639}$	$3\overline{)363}$	$4\overline{)288}$	$6\overline{)246}$
$2\overline{)168}$	$6\overline{)186}$	$7\overline{)287}$	$5\overline{)255}$	$3\overline{)219}$	$9\overline{)279}$
$7\overline{)357}$	$6\overline{)426}$	$8\overline{)328}$	$5\overline{)455}$	$9\overline{)819}$	$4\overline{)364}$

**Test 4. Division of Numbers Having Zeros**

$6\overline{)30}$	$8\overline{)40}$	$7\overline{)70}$	$2\overline{)80}$	$6\overline{)60}$	$3\overline{)900}$
$4\overline{)800}$	$2\overline{)400}$	$7\overline{)700}$	$3\overline{)600}$	$9\overline{)900}$	$5\overline{)305}$
$4\overline{)208}$	$8\overline{)408}$	$6\overline{)360}$	$9\overline{)810}$	$3\overline{)690}$	$7\overline{)420}$

If you made any mistakes on these tests, work the exercises of the same number on pages 125 and 126. If you made no mistakes, skip pages 125 and 126.

**HELPING YOU TO KNOW**

Write the answers on paper. Work carefully.

**Exercise 1. Help in Easy Division**

$6\overline{)54}$	$9\overline{)72}$	$4\overline{)24}$	$7\overline{)56}$	$7\overline{)63}$	$8\overline{)48}$	$9\overline{)36}$
$9\overline{)27}$	$6\overline{)24}$	$8\overline{)64}$	$3\overline{)21}$	$7\overline{)49}$	$5\overline{)35}$	$4\overline{)32}$

**Exercise 2. More Help in Division**

$7\overline{)42}$	$7\overline{)56}$	$9\overline{)81}$	$9\overline{)27}$	$6\overline{)18}$	$5\overline{)35}$	$6\overline{)54}$
$6\overline{)42}$	$8\overline{)72}$	$9\overline{)63}$	$6\overline{)48}$	$8\overline{)56}$	$4\overline{)36}$	$7\overline{)63}$
$9\overline{)72}$	$6\overline{)24}$	$8\overline{)64}$	$7\overline{)49}$	$5\overline{)45}$	$6\overline{)36}$	$3\overline{)21}$

**Exercise 3. Division of Three-Figure Numbers**

$3\overline{)363}$	$4\overline{)288}$	$4\overline{)844}$	$3\overline{)639}$	$6\overline{)246}$	$9\overline{)639}$
$6\overline{)186}$	$9\overline{)279}$	$5\overline{)255}$	$7\overline{)287}$	$3\overline{)219}$	$2\overline{)168}$
$8\overline{)328}$	$7\overline{)357}$	$5\overline{)455}$	$6\overline{)426}$	$4\overline{)364}$	$9\overline{)819}$

**Exercise 4. Division of Numbers Having Zeros**

$3\overline{)900}$	$6\overline{)30}$	$8\overline{)40}$	$6\overline{)60}$	$2\overline{)80}$	$7\overline{)70}$
$2\overline{)400}$	$9\overline{)900}$	$3\overline{)600}$	$5\overline{)305}$	$7\overline{)700}$	$4\overline{)800}$
$3\overline{)690}$	$4\overline{)208}$	$7\overline{)420}$	$8\overline{)408}$	$6\overline{)360}$	$9\overline{)810}$

Zero divided by a number always equals \_\_\_\_.

# HELPING YOU TO KNOW

Write the answers on paper. Work carefully.

## Exercise 1. Help in Easy Division

$24 \div 6 =$	$56 \div 7 =$	$28 \div 4 =$	$8 \times 8 =$
$24 \div ? = 6$	$56 \div ? = 7$	$28 \div ? = 4$	$64 \div 8 =$
$3 \times 9 =$	$5 \times 9 =$	$9 \times 8 =$	$25 \div 5 =$
$27 \div 9 =$	$9 \times 5 =$	$72 \div 9 =$	$7 \times 7 =$
$27 \div ? = 9$	$45 \div ? = 9$	$72 \div ? = 9$	$49 \div 7 =$

## Exercise 2. More Help in Division

$6 \times 6 =$	$42 = \text{__sevens}$	$6 \times \text{__} = 42$	$35 \div 7 =$			
$8 \times 4 =$	$56 = \text{__eights}$	$9 \times \text{__} = 36$	$72 \div 9 =$			
$9 \times 6 =$	$63 = \text{__nines}$	$8 \times \text{__} = 48$	$81 \div 9 =$			
$3 \overline{)18}$	$6 \overline{)54}$	$4 \overline{)36}$	$8 \overline{)72}$	$7 \overline{)28}$	$9 \overline{)54}$	$5 \overline{)35}$

## Exercise 3. Division of Three-Figure Numbers

$2 \overline{)468}$	$3 \overline{)396}$	$4 \overline{)844}$	$3 \overline{)939}$	$4 \overline{)848}$	$2 \overline{)846}$
$5 \overline{)155}$	$6 \overline{)366}$	$7 \overline{)357}$	$2 \overline{)148}$	$3 \overline{)246}$	$4 \overline{)248}$

## Exercise 4. Division of Numbers Having Zeros

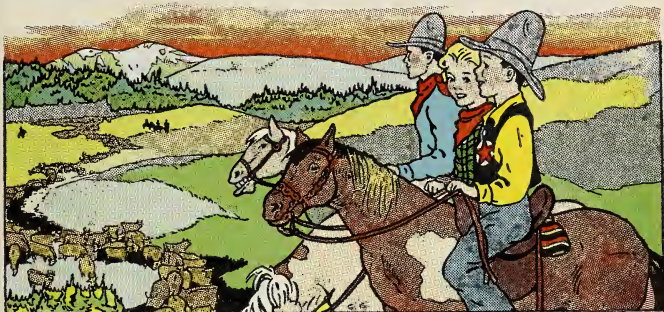
$3 \times 10 =$	$30 = \text{__tens}$	$2 \times 10 =$	$20 = \text{__tens}$
$5 \times 10 =$	$50 = \text{__tens}$	$4 \times 20 =$	$80 = \text{__tens}$

Zero divided by a number always equals zero.

$2 \overline{)400}$	$3 \overline{)600}$	$4 \overline{)800}$	$3 \overline{)609}$	$4 \overline{)804}$	$6 \overline{)306}$	$4 \overline{)208}$
$5 \overline{)405}$	$4 \overline{)408}$	$7 \overline{)490}$	$7 \overline{)420}$	$8 \overline{)640}$	$7 \overline{)560}$	$9 \overline{)540}$

**THE GOAL**

For the pupils who made no mistakes on page 124.



Read each problem and tell whether you should add, subtract, multiply, or divide. Tell why. Then answer the question in the problem.

1. Roy saw three cattle ranches last summer. On one ranch he saw 823 cattle, on another ranch 945 cattle, and on the third ranch 588. How many cattle did Roy see on the three ranches?

2. Aunt Edna took 6 children to the show. She paid 15¢ for each of their tickets. How much did the children's tickets cost her?

3. How many 2-cent postage stamps can you buy for \$10? (\$10 = 1000 cents.)

4. If you had \$12 and spent \$6.33, how much would you have left?

5. Make a problem in which you divide \$12 by 2.

## Timing Yourself

These 90 division facts are all that will ever be found in any division example with a one-figure divisor. Practice until you can say the quotients correctly in 5 minutes.

1.	$2\overline{)4}$	$2\overline{)10}$	$5\overline{)25}$	$3\overline{)9}$	$5\overline{)10}$	$2\overline{)6}$
2.	$2\overline{)14}$	$3\overline{)15}$	$2\overline{)8}$	$2\overline{)12}$	$5\overline{)20}$	$9\overline{)81}$
3.	$7\overline{)14}$	$2\overline{)16}$	$1\overline{)7}$	$6\overline{)36}$	$6\overline{)12}$	$1\overline{)5}$
4.	$5\overline{)15}$	$3\overline{)12}$	$1\overline{)4}$	$5\overline{)30}$	$3\overline{)21}$	$1\overline{)6}$
5.	$7\overline{)21}$	$4\overline{)12}$	$1\overline{)8}$	$5\overline{)40}$	$1\overline{)3}$	$4\overline{)16}$
6.	$9\overline{)27}$	$1\overline{)2}$	$3\overline{)18}$	$2\overline{)2}$	$1\overline{)9}$	$3\overline{)3}$
7.	$1\overline{)1}$	$8\overline{)16}$	$4\overline{)20}$	$4\overline{)4}$	$7\overline{)7}$	$8\overline{)32}$
<hr/>						
8.	$6\overline{)6}$	$5\overline{)35}$	$9\overline{)18}$	$5\overline{)5}$	$6\overline{)42}$	$1\overline{)0}$
9.	$6\overline{)0}$	$5\overline{)45}$	$3\overline{)0}$	$4\overline{)8}$	$3\overline{)6}$	$7\overline{)35}$
10.	$6\overline{)30}$	$4\overline{)0}$	$8\overline{)0}$	$9\overline{)45}$	$2\overline{)0}$	$7\overline{)56}$
11.	$2\overline{)18}$	$7\overline{)0}$	$6\overline{)24}$	$4\overline{)32}$	$9\overline{)0}$	$9\overline{)72}$
12.	$6\overline{)18}$	$8\overline{)8}$	$3\overline{)24}$	$9\overline{)9}$	$8\overline{)72}$	$5\overline{)0}$
13.	$8\overline{)40}$	$7\overline{)49}$	$6\overline{)48}$	$4\overline{)24}$	$8\overline{)24}$	$3\overline{)27}$
14.	$7\overline{)28}$	$7\overline{)63}$	$9\overline{)36}$	$7\overline{)42}$	$8\overline{)64}$	$8\overline{)48}$
15.	$4\overline{)28}$	$6\overline{)54}$	$4\overline{)36}$	$9\overline{)54}$	$9\overline{)63}$	$8\overline{)56}$

## CHAPTER 7

# DIVIDING BY ONE-FIGURE NUMBERS

## Learning the New Steps in Division

Now you will see how we write the steps in division. Then you will learn some harder steps.

1. Albert has 69 young apple trees to set in 3 equal rows. How many trees should be in each row?  $69 \div 3 = ?$



Write each step as you divide.

- (1) **Divide:** How many 3's in 6? 2.  
Write 2 over the 6 you divided.
- (2) **Multiply:**  $2 \times 3 = 6$ . Write 6 under the 6 of the dividend.
- (3) **Subtract:** 6 from 6 = 0. Do not write 0.
- (4) **Bring down** 9 from the dividend.
- (1) **Divide:** How many 3's in 9? 3.  
Write 3 in the quotient over 9.
- (2) **Multiply:**  $3 \times 3 = 9$ . Write 9 under 9.
- (3) **Subtract:** 9 from 9 = 0

The quotient is 23.

There should be 23 trees in each row.

$\begin{array}{r} 23 \\ 3 \overline{)69} \\ \underline{6} \phantom{0} \\ 9 \phantom{0} \\ \underline{9} \phantom{0} \\ 0 \end{array}$
---



Sometimes you must take two dividend figures as the first number to divide. Then the divisor is a larger number than the first dividend figure.

1. Sue and her mother sell cherries to people who pass their home on highway 36. Last spring they sold 168 quarts of cherries. How many gallons are the same as 168 quarts?  $168 \div 4 = ?$

Write each step as you divide.

The divisor 4 is more than the first dividend figure. Use two dividend figures as the number to divide.

$$\begin{array}{r}
 42 \\
 4 \overline{)168} \\
 \underline{16} \phantom{0} \\
 8 \\
 \underline{8} \\
 0
 \end{array}$$

(1) **Divide:** How many 4's in 16? 4.

Write 4 in the quotient over 6.

(2) **Multiply:**  $4 \times 4 = 16$ . Write 16.

(3) **Subtract:** 16 from 16 = 0.

(4) **Bring down** 8 from the dividend.

(1) **Divide:** How many 4's in 8? 2.

Write 2 in the quotient over 8.

(2) **Multiply:**  $2 \times 4 = 8$ . Write 8.

(3) **Subtract:** 8 from 8 = 0

The quotient is 42. They sold 42 gallons.

Problem 1 shows you how to check division.

1. Wilson's bakery sold 366 buns. Each package they sold had one-half dozen buns in it. How many of the packages were sold?  $366 \div 6 = ?$

Divide as you did on page 130.

**Divide**

$$\begin{array}{r} 61 \\ 6 \overline{)366} \\ \underline{36} \phantom{6} \\ 6 \phantom{6} \\ \underline{\phantom{6}} \end{array}$$

**Check**

$$\begin{array}{r} 61 \\ 6 \\ \hline 366 \end{array}$$

What dividend figures do you take as the first number to divide? Why?

Say step (1). Do you know over what dividend figure to write 6 in the quotient?

Say steps (2), (3), and (4).

What is the new number to divide?

Say the steps to finish.

To **check**, find the product of the divisor and the quotient. This should be the same number as the dividend in the problem.

Multiply:  $6 \times 61 = 366$

The quotient 61 is correct.

61 packages of buns were sold.

To check division, find the product of the divisor and the quotient. It should be the same as the dividend, if there is nothing left in dividing.

2. Sue has 455 pennies. How many nickels are the same as 455 pennies? Check your answer.

## 132      **Remainder at the End in Division**

Problem 1 shows you how to write division when there is a remainder.

1. Bill had 65 cents. How many 3-cent stamps could he buy for 65 cents. How much money should he have left?

$$65 \div 3 = ?$$

$$\begin{array}{r} 21 \\ 3 \overline{)65} \\ \underline{6} \phantom{0} \\ 5 \\ \underline{3} \phantom{0} \\ 2 \text{ r} \end{array}$$

- (1) Divide: How many 3's in 6? 2.  
Write 2 over 6.
- (2) Multiply:  $2 \times 3 = 6$ . Write 6 under 6.
- (3) Subtract: 6 from 6 = 0
- (4) Bring down 5.
- (1) Divide: How many 3's in 5? 1.  
Write 1 over 5.
- (2) Multiply:  $1 \times 3 = 3$ . Write 3 under 5.
- (3) Subtract: 3 from 5 = 2. Put **r** for **remainder** after 2.

The quotient is 21, and the remainder is 2.

Bill could buy 21 of the 3-cent stamps. He should have 2 cents left.

2. Give the quotients and say the steps.

$$\begin{array}{r} 4 \overline{)87} \\ \underline{8} \phantom{0} \\ 7 \\ \underline{4} \phantom{0} \\ 3 \text{ r} \end{array}$$

$$\begin{array}{r} 5 \overline{)356} \\ \underline{35} \phantom{0} \\ 6 \\ \underline{5} \phantom{0} \\ 1 \text{ r} \end{array}$$

$$\begin{array}{r} 8 \overline{)409} \\ \underline{40} \phantom{0} \\ 9 \\ \underline{8} \phantom{0} \\ 1 \text{ r} \end{array}$$

$$\begin{array}{r} 3 \overline{)97} \\ \underline{9} \phantom{0} \\ 7 \\ \underline{6} \phantom{0} \\ 1 \text{ r} \end{array}$$

$$\begin{array}{r} 6 \overline{)249} \\ \underline{24} \phantom{0} \\ 9 \\ \underline{6} \phantom{0} \\ 3 \text{ r} \end{array}$$

## Checking Division with a Remainder 133

You have learned how to check division when no remainder is left. In problem 1 you will see how to check when you have a remainder.

1. How many cans of corn at 9 cents each could Dick buy with 50 cents? How much change should he have left?  $50 \div 9 = ?$

(1) Divide: How many 9's in 50? 5 and a remainder. Write 5 in the quotient over 0 of 50.

(2) Multiply:  $5 \times 9 = \underline{\quad}$  Write 45 under 50.

(3) Subtract: 45 from 50 = 5 r. Write 5 r.

The quotient is 5, and 5 r.

To **check**, find the product of the divisor and the quotient, then add the remainder. This gives the same number as the dividend.

Multiply:  $5 \times 9 = 45$

Add remainder:  $45 + 5 = 50$

The quotient is correct.

Dick could buy 5 cans of corn. He should have 5 cents left.

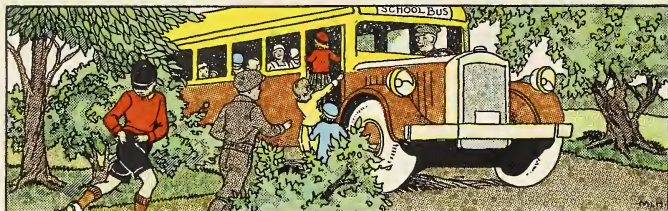
To check division with a remainder, add the remainder to the product of the divisor and the quotient. This should give you the dividend.

Divide

$$\begin{array}{r} 5 \\ 9 \overline{)50} \\ \underline{45} \\ 5 \text{ r} \end{array}$$

Check

$$\begin{array}{r} 9 \\ 5 \\ \hline 45 \\ 5 \\ \hline 50 \end{array}$$



1. Clark rides on the bus to school. The fare is 8¢. How many times can Clark ride for 75¢? How much of the money should be left?

Say the words to fill the blanks.

**Divide**

$$\begin{array}{r} \overline{)8\overline{)75}} \\ \underline{\phantom{00}} \end{array}$$

$\overline{\phantom{00}} \text{ r}$

**Check**

$\overline{\phantom{00}}$   
 $\overline{\phantom{00}}$   
 $\overline{\phantom{00}}$   
 $\overline{\phantom{00}}$

(1) Divide: How many 8's in 75?\_\_\_

Write \_\_\_ over \_\_\_

(2) Multiply: \_\_\_  $\times$  8 = \_\_\_

Write \_\_\_ under \_\_\_

(3) Subtract: \_\_\_ from \_\_\_ = \_\_\_ r

Multiply: \_\_\_  $\times$  \_\_\_ = \_\_\_

Add remainder: \_\_\_ + \_\_\_ = \_\_\_

The quotient above is correct. Why?

Clark can ride \_\_\_ times. He should have \_\_\_ cents left.

2. Find the quotient and remainder, then check:

$$4\overline{)25}$$

$$9\overline{)47}$$

$$6\overline{)45}$$

$$5\overline{)29}$$

$$9\overline{)40}$$

$$7\overline{)44}$$

$$8\overline{)67}$$

$$7\overline{)53}$$

$$9\overline{)76}$$

$$6\overline{)56}$$

$$7\overline{)65}$$

$$9\overline{)86}$$

$$5\overline{)49}$$

$$8\overline{)59}$$

$$7\overline{)61}$$

$$8\overline{)52}$$

$$6\overline{)58}$$

$$8\overline{)46}$$

In some problems there is a remainder in the first step in dividing a number.

1. How many nickels are equal to 65 cents?  
 $65 \div 5 = ?$

Write the steps as you divide.

- (1) Divide: How many 5's in 6? 1. Write 1 in the quotient over 6.
- (2) Multiply:  $1 \times 5 = 5$ . Write 5 under 6.
- (3) Subtract: 5 from 6 = 1. Write 1 under the 5 you subtracted.

This 1 is the remainder from the first step in the division. See how we use it in the new number to be divided.

- (4) Bring down 5 from the dividend.  
 Write the 5 after the 1. The new number to be divided is 15.

- (1) Divide: How many 5's in 15? 3. Write 3 in the quotient over 5.
- (2) Multiply:  $3 \times 5 = 15$ . Write 15 under 15.

- (3) Subtract: 15 from 15 = 0

The quotient is 13.

Thirteen nickels equal 65 cents.

2. Find the quotients in these examples:

$$4 \overline{)72}$$

$$6 \overline{)84}$$

$$3 \overline{)51}$$

$$7 \overline{)168}$$

$$5 \overline{)285}$$

$$8 \overline{)968}$$

$$\begin{array}{r} 13 \\ 5 \overline{)65} \\ \underline{5} \phantom{0} \\ 15 \\ \underline{15} \\ 0 \end{array}$$

## 136 Remainders in First Step and at the End

Some problems may have remainders in the steps in dividing and also a remainder at the end.

1. How many 3-cent stamps can you buy for 85 cents? How much of the money will you have left?

$85 \div 3 = ?$  Write the steps as you divide.

**Divide**

$$\begin{array}{r} 28 \\ 3 \overline{)85} \\ \underline{6} \phantom{0} \\ 25 \\ \underline{24} \\ 1 \text{ r} \end{array}$$

Divide: How many 3's in 8? 2 and a remainder. Write 2 over 8.

Multiply:  $2 \times 3 = 6$ . Write 6 under 8.

Subtract: 6 from 8 = 2. Write 2 below.

This 2 is the first remainder. How do we use it?

Bring down 5 from the dividend. Write the 5 after the 2. What is the new number to be divided?

Divide: How many 3's in 25? 8.

Write 8 in the quotient over 5.

Multiply:  $8 \times 3 = 24$ . Write 24 under—

Subtract: 24 from 25 = 1. This 1 is the remainder at the end.

The quotient is 28. The remainder is 1.

You can buy 28 3-cent stamps with 85 cents. You will have 1 cent left.

**Check**

$$\begin{array}{l} 3 \times 28 = 84 \\ 84 + 1 = 85 \end{array}$$

To check, find the product of the quotient and divisor. Then add the remainder.

Is the answer above correct? Why?

## Zero in the Quotient with Remainder 137

1. Mr. Fry has 162 strawberry plants. He wants to set them in 4 equal rows. How many plants should be in each row? How many will be left?

Divide 162 by 4.

(1) Divide: How many 4's in 16? 4.

Write 4 over the 6 of 16.

(2) Multiply:  $4 \times 4 = 16$ . Write 16 under 16.

(3) Subtract:  $16$  from  $16 = 0$ . Do not write the 0.

(4) Bring down 2.

(1) 2 is less than the divisor 4.

Write 0 in the quotient over 2.

Put r after the lower 2.

The quotient is 40, and the remainder is 2.

Each row should have 40 plants. There will be 2 plants left.

2. Read this example and say all the steps.

$$\begin{array}{r} 120 \\ 8 \overline{)965} \\ \underline{8} \phantom{0} \\ 16 \\ \underline{16} \\ 5 \text{ r} \end{array}$$

Be sure that you can tell

(1) Why we put 1 in the quotient;

(2) Why we put 2 in the quotient;

(3) Why we put 0 in the quotient;

(4) Why we have 5 r.

In division, every time a figure is brought down a figure must be placed in the quotient.



1. Joan has saved 203 pennies. How many nickels should the bank give her for the 203 pennies? How many pennies will be left?  $203 \div 5 = ?$

$$\begin{array}{r} 40 \\ 5 \overline{)203} \\ \underline{20} \phantom{0} \\ 3 \text{ r} \end{array}$$

Copy the example in the box, and say each step in the division.

Place the 4 over 0 in the dividend.

Why do you get 0 in the answer?

Read the quotient and the remainder.

Now answer the two questions in the problem.

2. Jack asked how many weeks are in one year, and how many days over. Divide 365 by 7.

$$\begin{array}{r} 52 \\ 7 \overline{)365} \\ \underline{35} \phantom{0} \\ 15 \phantom{0} \\ \underline{14} \phantom{0} \\ 1 \text{ r} \end{array}$$

$$365 \div 7 = ?$$

Copy the example in the box, and say each step in the division.

How many 7's in 36?

How do you get 15?

How do you get 14? 1 r?

Read the quotient and remainder.

One year equals — weeks and — day over.

# Finding Quotients and Remainders 139

Without writing, give the quotient and say the steps in each example.

1.	$\begin{array}{r} 3 \overline{)69} \\ \underline{6} \phantom{0} \\ 9 \\ \underline{9} \\ 0 \end{array}$	$\begin{array}{r} 6 \overline{)186} \\ \underline{18} \phantom{0} \\ 6 \\ \underline{6} \\ 0 \end{array}$	$\begin{array}{r} 2 \overline{)68} \\ \underline{6} \phantom{0} \\ 8 \\ \underline{8} \\ 0 \end{array}$	$\begin{array}{r} 3 \overline{)93} \\ \underline{9} \phantom{0} \\ 3 \\ \underline{3} \\ 0 \end{array}$	$\begin{array}{r} 4 \overline{)48} \\ \underline{4} \phantom{0} \\ 8 \\ \underline{8} \\ 0 \end{array}$
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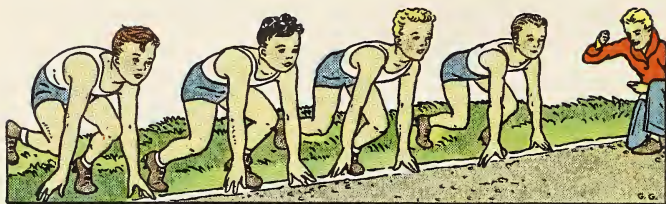
Copy and fill the blanks. Then check answers.

2.	$\begin{array}{r} 5 \overline{)258} \\ \underline{25} \phantom{0} \\ 8 \\ \underline{3} \text{ r} \end{array}$	$\begin{array}{r} \phantom{5} \overline{)148} \\ \underline{\phantom{25}} \phantom{0} \\ 8 \\ \underline{1} \text{ r} \end{array}$	$\begin{array}{r} \phantom{5} \overline{)368} \\ \underline{\phantom{25}} \phantom{0} \\ 6 \\ \underline{\phantom{3}} \text{ r} \end{array}$	$\begin{array}{r} 4 \overline{)87} \\ \underline{\phantom{25}} \phantom{0} \\ \phantom{8} \\ \underline{\phantom{3}} \text{ r} \end{array}$	$\begin{array}{r} 3 \overline{)248} \\ \underline{\phantom{25}} \phantom{0} \\ \phantom{8} \\ \underline{\phantom{3}} \text{ r} \end{array}$
----	--	--	--	---	--

3.	$\begin{array}{r} 5 \overline{)162} \\ \underline{15} \phantom{0} \\ 12 \\ \underline{\phantom{3}} \end{array}$	$\begin{array}{r} \phantom{5} \overline{)185} \\ \underline{\phantom{25}} \phantom{0} \\ 35 \\ \underline{\phantom{3}} \end{array}$	$\begin{array}{r} \phantom{5} \overline{)268} \\ \underline{\phantom{25}} \phantom{0} \\ 28 \\ \underline{\phantom{3}} \end{array}$	$\begin{array}{r} 7 \overline{)371} \\ \underline{\phantom{25}} \phantom{0} \\ \phantom{8} \\ \underline{\phantom{3}} \end{array}$	$\begin{array}{r} 6 \overline{)558} \\ \underline{\phantom{25}} \phantom{0} \\ \phantom{8} \\ \underline{\phantom{3}} \end{array}$
----	---	---	---	--	--

Copy and find the quotients. Check your answers.

4.	$4 \overline{)148}$	$6 \overline{)282}$	$5 \overline{)357}$	$7 \overline{)165}$	$3 \overline{)872}$
5.	$5 \overline{)172}$	$4 \overline{)192}$	$7 \overline{)216}$	$3 \overline{)194}$	$6 \overline{)777}$
6.	$8 \overline{)892}$	$9 \overline{)216}$	$9 \overline{)481}$	$8 \overline{)635}$	$8 \overline{)791}$



### The Track Team

1. The four boys on the track team weigh 84, 78, 82, and 80 pounds. What is their average weight?

**To find the average:**

(1) **Add** the numbers.

The sum is 324.

(2) **Divide** the sum by the number of boys.

$$324 \div 4 = 81$$

The **average** is 81.

Check:  $4 \times 81 = 324$

The answer is correct.

2. Dot's sister Lucy in the sixth grade keeps a record of her library reading. In 5 days last week she read 20, 26, 32, 32, and 35 pages. What was the average number of pages she read each day?

To find the average number of pages each day, find the sum of the numbers of pages Lucy read. Then divide by the number of days.

Add	Divide	Check
84	81	81
78	4 $\overline{)324}$	4
82	32	$\overline{324}$
80	4	
$\overline{324}$	4	
	$\underline{\quad}$	

**How We Use Averages in Life**

Find the answers in these problems. Check each division.

1. Carol's spelling grades for 4 days were 92, 91, 94 and 95. What was her average grade for these four days? Find the sum, then divide by \_\_\_\_.

2. Jack sold 46 magazines in October, 47 in November, and 51 in December. What was the average number Jack sold each month?

3. Margaret and her mother drove to Dawson in 3 hours. The first hour they drove 42 miles; the second hour, 48 miles; and the last hour, 45 miles. How many miles did they average in an hour?

4. Bob says the 5 boys on the basket ball team weigh 625 pounds. What is their average weight?

5. Jim dug dandelions to earn money in his spare time. He dug 198 dandelions in 6 afternoons. What was the average number that he dug each afternoon?

**Exercises in Division**

Write on your paper. Find the quotient and the remainder if there is one. Then check.

6.  $4\overline{)269}$

7.  $7\overline{)255}$

6.  $5\overline{)25}$

9.  $5\overline{)79}$

8.  $3\overline{)01}$

7.  $8\overline{)538}$

6.  $2\overline{)59}$

5.  $4\overline{)38}$

7.  $1\overline{)29}$

9.  $4\overline{)18}$

8.  $7\overline{)201}$

4.  $3\overline{)39}$

5.  $4\overline{)91}$

9.  $2\overline{)55}$

6.  $2\overline{)96}$

## Dividing a Money Number

## A Fruit-Canning Contest

The girls in the cooking class had a contest in canning fruit. They bought the fruit and the jars and kept account of what they paid out.

1. Mary paid \$1.08 for what she bought in putting up 9 quarts of fruit. How much did 1 quart cost her?  $\$1.08 \div 9 = ?$

Put the \$ and the decimal point in quotient's place over those in the dividend.

**Divide**

\$ .12

9) $\overline{) \$1.08}$

9

$\overline{18}$

$\overline{18}$

**Check**

12

9

$\overline{108}$

(1) Divide: How many 9's in 10? 1 and a remainder. Write 1 in the quotient over 0.

(2) Multiply:  $1 \times 9 = 9$

(3) Subtract: 9 from 10 = 1

(4) Bring down 8. Write it after the 1. What is the new number to divide?

Say the steps to finish.

Read the answer, "12 cents."

Mary spent 12 cents for 1 quart of her fruit.

Check:  $9 \times 12\text{¢} = 108\text{¢} = \$1.08$

To divide money numbers, place the \$ and the decimal point in quotient's place over the \$ and the decimal point in the dividend. Then divide as you do with other numbers.



This table shows you how many quarts of fruit each girl put up and how much money she paid out.

Name	Quarts	Cost	Cost of 1 Qt.
Mary	9	\$1.08	\$.12
Gertrude	6	1.02	
Sarah	9	1.17	
Alta	8	1.04	
Ann	7	1.05	

1. Find each girl's cost of 1 quart of fruit.
2. Copy the table and fill each blank.
3. Who won the contest by having the lowest cost for 1 quart?
4. What two girls tied for second place?

Copy these examples and find the quotients.

5.  $3 \overline{) \$1.68}$        $5 \overline{) \$2.80}$        $6 \overline{) \$3.90}$        $7 \overline{) \$3.78}$
6.  $3 \overline{) \$1.71}$        $2 \overline{) \$1.78}$        $4 \overline{) \$2.12}$        $6 \overline{) \$2.58}$

7. When you divide a money number, what should you do first after you write the divisor and dividend in their places?

## Loading the Buses Equally

1. Eighty children in grade four are going to the high school basket ball meet. They will ride in 3 buses and in the teacher's car. If each bus takes the same number, how many children will ride in each bus? How many will be left to ride in the teacher's car?

$$80 \div 3 = ? \text{ and } \_\_\_\_\_\_ r?$$

—
3)80
6
—
18
—
r

Copy the example in the box, and find the right figure to fill each blank.

What two figures should be in the two blanks over 18? How do you get each of these two figures?

How do you get 18?

What figure should fill the blank before r? How do you find it?

What is the quotient? The remainder?

How many children will ride in each bus?

How many will ride in the teacher's car?

To check, find the product of the quotient and the divisor. Add the remainder to this product.

Copy the work in the box. Fill the blanks as you multiply and add.

Does the answer show that your work in the problem above is correct?

—
3
78
—
—
—

# The Tomato Crop

1. Lucille's father raised 352 bushels of tomatoes. He sold one-half of them in August. How many bushels of tomatoes did he sell in August?  $352 \div 2 = ?$

$$\begin{array}{r} 176 \\ 2 \overline{)352} \\ \underline{2} \phantom{00} \\ 15 \phantom{0} \\ \underline{14} \phantom{0} \\ 12 \phantom{0} \\ \underline{12} \\ 0 \end{array}$$

Why did we write 1 in the quotient?

How did we get 15?

Why did we write 7 in the quotient?

How did we get 14? How did we get 12?

How did we get 6 in the quotient?

How many bushels of tomatoes did

Lucille's father sell in August?

Check your answer.

2. Tell why each number is put where it is:

(a)	(b)	(c)	
$\begin{array}{r} 287 \\ 6 \overline{)1722} \\ \underline{12} \phantom{00} \\ 52 \phantom{0} \\ \underline{48} \phantom{0} \\ 42 \phantom{0} \\ \underline{42} \\ 0 \end{array}$	$\begin{array}{r} 687 \\ 4 \overline{)2749} \\ \underline{24} \phantom{00} \\ 34 \phantom{0} \\ \underline{32} \phantom{0} \\ 29 \phantom{0} \\ \underline{28} \phantom{0} \\ 1 \text{ r} \end{array}$	$\begin{array}{r} 129 \\ 7 \overline{)908} \\ \underline{7} \phantom{00} \\ 20 \phantom{0} \\ \underline{14} \phantom{0} \\ 68 \phantom{0} \\ \underline{63} \phantom{0} \\ 5 \text{ r} \end{array}$	Check
			$\begin{array}{r} 129 \\ \underline{7} \\ 903 \\ \phantom{00} 5 \text{ r} \\ 908 \end{array}$

3. Divide by 5 and mark remainders r. Check.

1793      \$33.70      639      4867      \$10.95

1. John's father had an order for 2406 boxes. He made the boxes in 6 days in his factory. What was the average number of boxes made in a day?

Divide 2406 by 6.  $2406 \div 6 = ?$

$$\begin{array}{r} 401 \\ 6 \overline{)2406} \\ \underline{24} \phantom{00} \\ 06 \phantom{00} \\ \underline{6} \phantom{00} \\ 00 \end{array}$$

(1) Divide: How many 6's in 24? 4.

Write 4 in the quotient over 4.

(2) Multiply:  $4 \times 6 = 24$ . Write 24.

(3) Subtract: 24 from 24 = 0. Do not write 0.

(4) Bring down 0 from the dividend.

(1) How many 6's in 0? None. Write 0 in the quotient over 0. Bring down 6 from the dividend.

(1) How many 6's in 6? 1. Write 1 in the quotient over 6.

(2) Multiply, and finish.

The average number of boxes made daily was\_\_\_\_\_.

2. Divide 5025 by 5.  $5025 \div 5 = ?$

$$\begin{array}{r} 1005 \\ 5 \overline{)5025} \\ \underline{5} \phantom{000} \\ 025 \phantom{00} \\ \underline{25} \phantom{00} \\ 00 \end{array}$$

(a) Why do we put 1 in the quotient?

(b) Why do we put the first 0 in the quotient?

(c) Why do we put in the second 0?

(d) Why do we put 5 in the quotient?

(e) How can you check the answer?

If the number to be divided after bringing a number down is smaller than the divisor, put 0 in the quotient.

Copy these examples and find the quotients.  
Check your answers.

$$1. \quad 3 \overline{)288} \quad 4 \overline{)336} \quad 7 \overline{)469} \quad 9 \overline{)621} \quad 5 \overline{)430}$$

Subtract quickly, and do not use a pencil:

$$2. \quad \begin{array}{r} 75 \\ \underline{72} \end{array} \quad \begin{array}{r} 66 \\ \underline{63} \end{array} \quad \begin{array}{r} 37 \\ \underline{35} \end{array} \quad \begin{array}{r} 53 \\ \underline{48} \end{array} \quad \begin{array}{r} 27 \\ \underline{24} \end{array} \quad \begin{array}{r} 85 \\ \underline{81} \end{array} \quad \begin{array}{r} 26 \\ \underline{25} \end{array}$$

$$3. \quad \begin{array}{r} 47 \\ \underline{44} \end{array} \quad \begin{array}{r} 32 \\ \underline{27} \end{array} \quad \begin{array}{r} 80 \\ \underline{72} \end{array} \quad \begin{array}{r} 61 \\ \underline{56} \end{array} \quad \begin{array}{r} 26 \\ \underline{21} \end{array} \quad \begin{array}{r} 16 \\ \underline{12} \end{array} \quad \begin{array}{r} 29 \\ \underline{24} \end{array}$$

$$4. \quad \begin{array}{r} 48 \\ \underline{45} \end{array} \quad \begin{array}{r} 61 \\ \underline{54} \end{array} \quad \begin{array}{r} 86 \\ \underline{81} \end{array} \quad \begin{array}{r} 51 \\ \underline{45} \end{array} \quad \begin{array}{r} 70 \\ \underline{65} \end{array} \quad \begin{array}{r} 47 \\ \underline{40} \end{array} \quad \begin{array}{r} 34 \\ \underline{28} \end{array}$$

$$5. \quad \begin{array}{r} 71 \\ \underline{63} \end{array} \quad \begin{array}{r} 43 \\ \underline{38} \end{array} \quad \begin{array}{r} 94 \\ \underline{88} \end{array} \quad \begin{array}{r} 79 \\ \underline{72} \end{array} \quad \begin{array}{r} 42 \\ \underline{36} \end{array} \quad \begin{array}{r} 61 \\ \underline{54} \end{array} \quad \begin{array}{r} 90 \\ \underline{81} \end{array}$$

If you were slow in giving answers to some of the above examples, say the answers several times.

$$6. \quad \begin{array}{llll} 45 \div 7 = & 56 \div 6 = & 27 \div 4 = & 35 \div 4 = \\ 67 \div 9 = & 37 \div 6 = & 46 \div 5 = & 39 \div 7 = \\ 36 \div 8 = & 84 \div 9 = & 77 \div 8 = & 28 \div 9 = \end{array}$$

Read, and say the words to fill the blanks:

7. We use division

(a) To show how many times the \_\_\_\_\_  
is found in the \_\_\_\_\_.

(b) To find a part of the \_\_\_\_\_.

## 148 Reviewing the Four Kinds of Examples

1. Say the answers as quickly as you can:

$8 \times 4 + 5 =$

$45 + 8 =$

$72 \div 8 =$

$6 \times 7 + 4 =$

$64 - 7 =$

$6 \times 8 =$

$9 \times 8 + 6 =$

$29 + 6 =$

$54 \div 6 =$

$4 \times 7 + 3 =$

$43 - 8 =$

$4 \times 9 =$

$7 \times 8 + 5 =$

$77 + 9 =$

$63 \div 9 =$

$8 \times 3 + 7 =$

$21 - 9 =$

$7 \times 4 =$

$9 \times 6 + 8 =$

$28 + 4 =$

$56 \div 7 =$

$5 \times 3 + 7 =$

$56 - 7 =$

$3 \times 9 =$

2. Add:

4	5	6
8	7	5
7	6	5
5	8	7
8	9	6
<u>6</u>	<u>8</u>	<u>8</u>

3. Write in columns

and add:

(a) 14, 8, 60, 29, 115

(b) 23, 92, 9, 140, 49

(c) 679, 24, 236, 107, 97

4. Copy these examples and find the quotients.  
Check each answer by multiplication.

$3 \overline{)369}$

$7 \overline{)280}$

$4 \overline{)840}$

$5 \overline{)355}$

$9 \overline{)153}$

$2 \overline{)104}$

$5 \overline{)265}$

$8 \overline{)120}$

$8 \overline{)248}$

$4 \overline{)168}$

$5 \overline{)750}$

$9 \overline{)144}$

$7 \overline{)427}$

$3 \overline{)564}$

$4 \overline{)144}$

$9 \overline{)270}$

$7 \overline{)560}$

$2 \overline{)596}$

$3 \overline{)165}$

$9 \overline{)270}$

$8 \overline{)568}$

$2 \overline{)146}$

$4 \overline{)328}$

$7 \overline{)105}$

$6 \overline{)492}$

$4 \overline{)360}$

$7 \overline{)490}$

$8 \overline{)720}$

$6 \overline{)426}$

$5 \overline{)225}$



### Selling Tickets for the School Game

People save time by dividing in a short way. This is easy if the divisor is a one-figure number.

1. Our class sold  $\frac{1}{8}$  of all the tickets for the school game. The whole number sold was 512. How many tickets did our class sell?  $512 \div 8 = ?$

Division steps in the short way:

Write the divisor and dividend as you have learned.

64	
8	512

Divide: How many 8's in 51? 6, and 3 r.

Write 6 in the quotient over 1 of 51.

Remember the 3 remainder. Why is it 3?

**Think of 3 written before the next dividend figure 2.** The new number to be divided is 32.

Divide: How many 8's in 32? 4. Write 4 in the quotient over 2.

The quotient is 64.

Our class sold 64 tickets.



### Health Posters

Divide in the short way. Check your answers.

1. The school show of health posters lasted 6 days. There were 972 visitors. What was the average number of visitors each day?  $972 \div 6 = ?$

2. Bob's brother works in the Ideal Restaurant. He placed 4 chairs at each table. There were 144 chairs. How many tables were there?

3. Joe has 225 tomato plants in 9 equal rows in his garden. How many plants are in each row?

4. In 165 school days Ruth was not absent from school a day. The school week is 5 days. For how many weeks did Ruth have a perfect record?

In the exercises below find the quotients the short way. Then find them the long way. Do you get the same quotients both ways?

5.  $8 \overline{)376}$        $5 \overline{)295}$        $4 \overline{)384}$        $7 \overline{)434}$        $6 \overline{)396}$

6.  $6 \overline{)1278}$        $7 \overline{)2954}$        $5 \overline{)1265}$        $8 \overline{)3416}$        $9 \overline{)2925}$

## KNOWING THAT YOU KNOW

Copy each row of examples, and find the correct quotients as fast as you can.

### Test 1. Two-Figure Quotients with and without Remainders

$$\begin{array}{r} 5 \overline{)478} \\ 3 \overline{)201} \\ 6 \overline{)324} \\ 8 \overline{)459} \\ 4 \overline{)232} \\ 7 \overline{)318} \\ 9 \overline{)229} \\ 8 \overline{)656} \\ 6 \overline{)394} \\ 4 \overline{)338} \\ 7 \overline{)413} \\ 9 \overline{)805} \end{array}$$

### Test 2. Three-Figure Quotients with and without Remainders

$$\begin{array}{r} 6 \overline{)5097} \\ 7 \overline{)5925} \\ 8 \overline{)2156} \\ 4 \overline{)2296} \\ 9 \overline{)1017} \\ 8 \overline{)5072} \\ 5 \overline{)873} \\ 3 \overline{)789} \\ 9 \overline{)3937} \\ 7 \overline{)964} \end{array}$$

### Test 3. Zero in Quotient or Dividend

$$\begin{array}{r} 6 \overline{)4324} \\ 3 \overline{)2115} \\ 9 \overline{)8139} \\ 7 \overline{)2660} \\ 8 \overline{)4018} \\ 5 \overline{)2100} \\ 8 \overline{)4011} \\ 6 \overline{)1800} \\ 4 \overline{)2805} \\ 9 \overline{)4510} \end{array}$$

### Test 4. Finding Part of a Money Number

$$\begin{array}{r} 3 \overline{)\$9.00} \\ 6 \overline{)\$3.30} \\ 4 \overline{)\$6.04} \\ 8 \overline{)\$4.80} \\ 7 \overline{)\$51.10} \\ 5 \overline{)\$25.45} \\ 8 \overline{)\$48.40} \\ 4 \overline{)\$81.00} \\ 7 \overline{)\$10.43} \end{array}$$

Check your work as your teacher reads the correct answers. If you made a mistake in any of these tests, work the exercises of the same number on pages 152 and 153. If you made no mistakes, skip pages 152 and 153.

## HELPING YOU TO KNOW

### Exercise 1. Helps in Division Examples

Try to say the correct products in  $1\frac{1}{2}$  minutes.

$\begin{array}{r} 8 \\ 8 \end{array}$	$\begin{array}{r} 3 \\ 9 \end{array}$	$\begin{array}{r} 7 \\ 6 \end{array}$	$\begin{array}{r} 5 \\ 8 \end{array}$	$\begin{array}{r} 4 \\ 7 \end{array}$	$\begin{array}{r} 9 \\ 9 \end{array}$	$\begin{array}{r} 2 \\ 7 \end{array}$	$\begin{array}{r} 8 \\ 4 \end{array}$	$\begin{array}{r} 6 \\ 9 \end{array}$
$\begin{array}{r} 1 \\ 8 \end{array}$	$\begin{array}{r} 4 \\ 3 \end{array}$	$\begin{array}{r} 8 \\ 5 \end{array}$	$\begin{array}{r} 2 \\ 9 \end{array}$	$\begin{array}{r} 5 \\ 6 \end{array}$	$\begin{array}{r} 9 \\ 1 \end{array}$	$\begin{array}{r} 3 \\ 8 \end{array}$	$\begin{array}{r} 6 \\ 6 \end{array}$	$\begin{array}{r} 7 \\ 5 \end{array}$

Try to say the correct remainders in 1 minute.

$\begin{array}{r} 11 \\ 4 \end{array}$	$\begin{array}{r} 14 \\ 7 \end{array}$	$\begin{array}{r} 11 \\ 2 \end{array}$	$\begin{array}{r} 22 \\ 8 \end{array}$	$\begin{array}{r} 10 \\ 1 \end{array}$	$\begin{array}{r} 13 \\ 4 \end{array}$	$\begin{array}{r} 10 \\ 2 \end{array}$	$\begin{array}{r} 16 \\ 8 \end{array}$
$\begin{array}{r} 25 \\ 9 \end{array}$	$\begin{array}{r} 12 \\ 6 \end{array}$	$\begin{array}{r} 14 \\ 5 \end{array}$	$\begin{array}{r} 11 \\ 3 \end{array}$	$\begin{array}{r} 17 \\ 9 \end{array}$	$\begin{array}{r} 13 \\ 8 \end{array}$	$\begin{array}{r} 16 \\ 7 \end{array}$	$\begin{array}{r} 12 \\ 5 \end{array}$

### Exercise 2. Three-Figure Quotients

In dividing remember these steps:

- (1) **Divide** to find the first quotient figure.
- (2) **Multiply** the divisor by the quotient figure.
- (3) **Subtract** this product from the part of the dividend that you are using.
- (4) **Bring down** the next dividend figure, and go on in the same way.

See if you can find the correct quotients for each row in 2 minutes. Mark remainders r.

$2\overline{)1429}$	$6\overline{)4568}$	$5\overline{)2655}$	$8\overline{)5688}$	$7\overline{)2885}$
$7\overline{)3651}$	$9\overline{)5346}$	$8\overline{)3591}$	$3\overline{)2619}$	$6\overline{)2467}$

# HELPING YOU TO KNOW

## Exercise 3. Zeros in Division Examples

Read each step, and say the missing numbers.

$$\begin{array}{r} 901 \\ 7 \overline{)6309} \\ \underline{63} \phantom{00} \\ 09 \\ \underline{7} \phantom{00} \\ 2r \end{array}$$

(1) **Divide:** How many 7's in \_\_\_ ?

Write \_\_\_ over \_\_\_

(2) **Multiply:** \_\_\_  $\times$  \_\_\_ = 63

(3) **Subtract:** \_\_\_ from \_\_\_

Do not write \_\_\_

(4) **Bring down** \_\_\_

Finish by saying the other steps.

Find the quotients, and check your answers.

$$4 \overline{)2409}$$

$$3 \overline{)9069}$$

$$9 \overline{)6318}$$

$$8 \overline{)8024}$$

$$7 \overline{)6300}$$

## Exercise 4. Money Numbers in Division

Read and say the number for each blank. Tell why the dollar sign (\$) and decimal point (.) are used in each place.

$$\begin{array}{r} \$ \phantom{.} \\ 5 \overline{)\$44.75} \\ \underline{40} \phantom{00} \\ 47 \\ \underline{45} \phantom{00} \\ 25 \\ \underline{25} \phantom{00} \end{array}$$

(1) How many 5's in 44?

Write \_\_\_ over \_\_\_.

(2) \_\_\_  $\times$  5 = \_\_\_

Write \_\_\_ under \_\_\_.

Finish the example, and tell why we use the (.) and the \$.

Find the quotients, and check.

$$9 \overline{)\$72.90}$$

$$6 \overline{)\$30.30}$$

$$7 \overline{)\$8.68}$$

$$8 \overline{)\$10.00}$$

$$4 \overline{)\$13.40}$$

## T H E   G O A L

For the pupils who made no mistakes on page 151.

1. Mr. Hall bought 8 shirts of one kind for \$12.00. What was the cost of each shirt?
2. Divide 436 stamps equally among 4 boys. How many of the stamps should each boy get?
3. Five girls handed out 450 programs to the children at the school show. What was the average number of programs each girl handed out?
4. At a big football game 7 high school boys sold 1400 bags of peanuts. What was the average number of bags each boy sold?
5. Mr. Hall's property ran 1215 feet along the lake shore. He sold a lot which took  $\frac{1}{3}$  of his shore line. How many feet of shore did he sell?
6. There are 5 children in John's family. Their grandfather gave them \$3.25 to be divided equally among them. How much should each receive?

Copy these examples and find the quotients.

$$7. \quad 6 \overline{)364} \quad 4 \overline{)167} \quad 7 \overline{)495} \quad 5 \overline{)253} \quad 9 \overline{)817}$$

$$8. \quad 5 \overline{)3351} \quad 9 \overline{)4772} \quad 4 \overline{)1841} \quad 6 \overline{)2418} \quad 9 \overline{)4840}$$

$$9. \quad 7 \overline{)4226} \quad 6 \overline{)1385} \quad 9 \overline{)3247} \quad 4 \overline{)2836} \quad 5 \overline{)2046}$$

$$10. \quad 4 \overline{)\$12.24} \quad 7 \overline{)\$28.63} \quad 5 \overline{)\$25.10} \quad 8 \overline{)\$62.40} \quad 9 \overline{)\$63.00}$$

## CHAPTER 8

### USING ARITHMETIC IN LIFE

#### Questions to Be Asked in Solving Problems

Read each problem carefully and ask yourself:

- (a) What does the problem ask me to find?
- (b) What does the problem tell me?
- (c) What should I do to solve the problem?

Then solve the problem.

1. When John and Elmer sold their corn last fall, John had 225 bu. and Elmer had 209 bu. How much more corn did John have than Elmer?

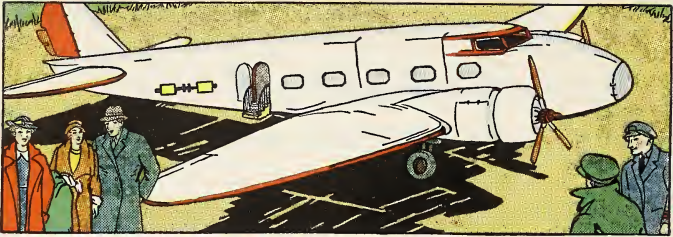
(a) What does the problem ask me to find? It asks how much more corn John had than Elmer.

(b) What does the problem tell me? John had 225 bu. of corn and Elmer had 209 bu.

(c) What should I do to solve the problem? Subtract the number of bushels Elmer had from the number of bushels John had.

2. One month Henry sold 77 copies of *The Saturday Evening Post*. He got 5 cents a copy. How much money did he receive for the magazines?

- |                           |                    |
|---------------------------|--------------------|
| In problems ask yourself: | 1. What is wanted? |
|                           | 2. What is given?  |
|                           | 3. What must I do? |



### At the Airport

Read each problem. Ask yourself: What is wanted? What is given? What must I do?

1. An airplane flew 110 miles an hour for 24 hours. How many miles did it fly on this trip?
2. The airplane carried 2496 lb. of mail, 2483 lb. of express, and passengers weighing 1957 lb. How many pounds did the airplane carry?
3. From Kansas City to Chicago an airplane flies 405 miles and from Chicago to New York City 704 miles. How far does the plane fly on this trip?
4. The average weight of 14 football players was 149 lb. What was the weight of all?
5. In April and May, Mr. Sellers used his car 38 days for business trips. He averaged 138 miles a day. How many miles did he drive on these trips?
6. San Francisco is 3186 miles from New York. Liverpool, England, is 3107 miles from New York. Which city is farther from New York? How much?

1. George sold papers 22 days during January. He averaged 62 papers a day. How many papers did he sell during January?

$$\begin{array}{r} 62 \\ 22 \\ \hline 124 \\ 124 \\ \hline 1364 \end{array}$$

To find the answer, multiply.

As the problem asks how many papers George sold during January, the answer must be a number of papers.

George sold 1364 papers.

2. Bob sold 25 magazines a week for a year (52 weeks). How many did he sell that year?

$$\begin{array}{r} 25 \quad 52 \\ 52 \text{ or } 25 \\ \hline 50 \quad 260 \\ 125 \quad 104 \\ \hline 1300 \quad 1300 \end{array}$$

Multiply by the smaller number.

The product is the same either way.

The answer must be a number of magazines.

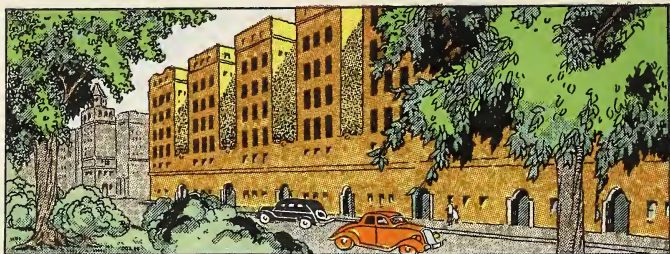
Bob sold 1300 magazines that year.

3. Margaret sold 36 bunches of pansies at 15¢ a bunch. How much should she get for them?

4. The 36 pupils in Ann's class each bought a reader for 68¢. How much did all the readers cost?



The question in the problem helps you to know the name you should give to the answer.



In the problems below, the question is left out. Read each problem. Then ask the question which will finish it.

Tell whether you must add, subtract, multiply, or divide to solve the problem. Tell why.

1. Sally lives in a block in which there are 8 apartment buildings each having 36 apartments.

2. In Jim's block in the city the people have enough automobiles to carry 192 persons. The average number to a car is 4.

3. One year Julia's cherry trees bore 200 quarts of cherries. One-fourth of the cherries were sold to a grocer.

4. Last week Curtis Hall sold 12 dozen eggs for 32¢ a dozen.

5. The population of Hot Springs was 20,115 in 1930. The same year the population of Laporte was 15,755.



### Betty and Claire Start the Pigeons

In the problems below **some fact is left out**. Read each problem and **tell what fact you need to know** to answer the question.

1. Betty and Claire helped to start 2 homing pigeons. The pigeons flew 324 miles. How many miles an hour did they fly?

2. A few years ago the record of the fastest homing pigeon was 2511 yards a minute. How far would this pigeon be ahead of another pigeon in 1 minute? In 5 minutes? What must you know about the other pigeon to solve the problem?

3. Bobby Burke's father owned 1280 acres of land. He divided his land into small farms of equal size. How many acres did he have in each of these small farms?

4. Bobby sold 250 magazines in his vacation. What was his average number sold each week?

1. Judy bought a spelling book for 20¢, pencils for 5¢, and a box of pens for 10¢. She handed the clerk 50¢. How much change should she receive?

(a) Find the cost of all that Judy bought.

\$ .20	Cost of the spelling book
.05	Cost of the pencils
.10	Cost of the box of pens
<u>\$.35</u>	Cost of all

(b) Find what change Judy should receive.

(1) The Clerk's way

	35¢
A nickel	40¢
A dime	50¢
A nickel and a dime =	

(2) By Subtraction

\$ .50
<u>.35</u>
\$.15

Judy should receive 15 cents in change.

2. The fourth grade girls made cookies for the school fair. They made 4 dozen like a star, 5 dozen like an elephant, and 3 dozen like a clown. They sold the cookies at 20 cents a dozen. How much money should the girls get for the cookies?

(a) Find how many dozen cookies the girls made.

$$4 \text{ doz.} + 5 \text{ doz.} + 3 \text{ doz.} = 12 \text{ doz.}$$

(b) Multiply the price for one dozen by the number of dozen cookies.

$$12 \times 20¢ = 240¢ = \$2.40$$

The girls should receive \$2.40 for the cookies.



### Solving Problems in Daily Life

What does each problem ask you? What does each problem tell you? What should you find first? Then what should you do to finish?

1. Mary bought 2 lb. of steak at 32¢ a pound. She handed the clerk \$1. How much change should she receive?

2. Fred's cow gives 4 gallons of milk a day. He sells the milk at 11¢ a quart. How much should he receive for each day's milk?

3. In January the Miller store sold coats at  $\frac{1}{3}$  less than the marked prices. How much should Mrs. Lake pay for a coat that was marked \$43.50?

4. Dorothy bought  $\frac{1}{2}$  yd. of lace at 48¢ a yard. How much change should she get from \$1?

5. Helen's school day begins at 9 A. M. and ends at 3:00 P. M. She has 1 hour off at noon. How many hours long is the school day?

In solving a problem of more than one step you should make a plan to show what you need to do. Study the plan in problem 1. Then make a plan for each problem below. Follow your plan to find the answer to the problem.

1. One day Jack sold 3 copies of *Red Book* at 25¢ each. How much less than \$1 should Jack get for the magazines? Say the number for each blank.

First: Multiply to find  $3 \times 25¢$ .

Second: Subtract \_\_\_\_ from \$1.00.

Jack should get \_\_\_\_ for the magazines.

2. Marie helps in a book store. She sold 8 copies of *Time* at 15¢ a copy. In what 3 coins could she be paid the correct amount?

3. Marie sold 13 copies of *The Saturday Evening Post* at 5¢ a copy. In what 3 coins could she be paid the correct amount?

4. One month Ned earned \$10.00. He paid \$3.25 for skates and \$2.50 for a pair of skis. How much of the money did he have left?

5. Howard sold 7 copies of *Good Housekeeping* at 25¢ each. Look at your answer for problem 2 and tell how much more money or how much less money Howard should get than Marie received.

6. James sold 9 copies of a 15-cent magazine. How much less than \$2 should James get for the 9 magazines?



### The Boys' Boat Club

Think what each problem means. Make a plan to solve it. Then answer the question it asks.

1. Bob and two friends bought a boat to use in summer. The price was \$42. The boys paid one-half in cash. They promised to pay \$10 more in 30 days, and the rest in 90 days. How much should they pay at the end of the 90 days?

2. The boys sold stock in the Swan Boat club at 10¢ a share. Bob's uncle bought \$5 worth. Was that more or less than 35 shares? How much?

3. Mrs. Lane bought 10 shares of stock, Miss Robbins 5, Mr. Tilly 20, and Mr. Lane 15. How many shares did these people buy? How much money did they pay for the shares?

4. With the money from the shares they sold, did the boys have enough to pay \$10 at the end of 30 days?

5. Bob's father gave the boys \$3 and with their pocket money they had enough to make the last payment of \$11. How much was their pocket money?

## 164 Remembering What You Have Learned

Copy and find the answers.

1. Subtract

$$\begin{array}{r} 12625 \\ 7982 \\ \hline \end{array}$$

2. Add

$$\begin{array}{r} 463 \\ 721 \\ 954 \\ \hline 872 \end{array}$$

3. Divide 252 by 9

4. Multiply 3165 by 16.

5. Subtract \$65.27 from \$109.75.

6. Add

$$\begin{array}{r} 2056 \\ 17329 \\ \hline 53817 \end{array}$$

7.  $8 \overline{)506}$

9. Subtract

$$\begin{array}{r} 11852 \\ \hline 9674 \end{array}$$

8.  $7 \overline{)284}$

10.  $\$7.50 \div 6 = ?$

11.  $9063 \times 172 = ?$

12. Add: 6726, 3498, 10257, 12154.

13. How much must be added to 976 to make 18592?

14. How many nickels are in \$2.00, or 200 cents?

15. 24 quarters = ? dollars.

16. What is the answer called in an example in subtraction? When should you use subtraction?

17. What is the answer called in an example in division? When should you use division?

18. Write these numbers in figures:

(a) Five thousand six hundred seventy

(b) Sixty-eight thousand four hundred twenty-nine

19. Write in figures: XXII, XLVI, CLV.



### The Junior Hikers

Read each problem carefully, and tell if you should add, subtract, multiply, or divide.

1. The Junior Hikers left home at 6:35 A. M. Saturday for a hike in the country. They were gone 12 hours. What time was it when they returned home?

2. The boys spent 12 hours on their trip and walked one-half of that time. How many hours did they walk?

3. If the boys walked 6 hours and the distance traveled was 12 miles, what was the average distance an hour?

4. During the day the hikers counted 5 rabbits and 17 chipmunks. One of the boys said he saw 3 times as many chipmunks as rabbits. How nearly was he right? How many more chipmunks did he see than rabbits?

Write sums and check. (Time, 6 minutes)

1.	$\begin{array}{r} 25 \\ 67 \\ \hline 54 \end{array}$	$\begin{array}{r} 78 \\ 32 \\ \hline 69 \end{array}$	$\begin{array}{r} 86 \\ 43 \\ \hline 38 \end{array}$	$\begin{array}{r} 93 \\ 48 \\ \hline 57 \end{array}$	$\begin{array}{r} 47 \\ 94 \\ \hline 68 \end{array}$	$\begin{array}{r} 59 \\ 65 \\ \hline 37 \end{array}$
----	--	--	--	--	--	--

2.	$\begin{array}{r} 19 \\ 60 \\ 27 \\ \hline 55 \end{array}$	$\begin{array}{r} 26 \\ 74 \\ 36 \\ \hline 63 \end{array}$	$\begin{array}{r} 74 \\ 37 \\ 69 \\ \hline 34 \end{array}$	$\begin{array}{r} 56 \\ 63 \\ 48 \\ \hline 75 \end{array}$	$\begin{array}{r} 27 \\ 58 \\ 73 \\ \hline 46 \end{array}$	$\begin{array}{r} 83 \\ 39 \\ 67 \\ \hline 75 \end{array}$
----	--	--	--	--	--	--

Write the remainders, and check. (5 minutes)

3.	$\begin{array}{r} 96 \\ 38 \\ \hline \end{array}$	$\begin{array}{r} 45 \\ 27 \\ \hline \end{array}$	$\begin{array}{r} \$5.00 \\ .39 \\ \hline \end{array}$	$\begin{array}{r} 64 \\ 36 \\ \hline \end{array}$	$\begin{array}{r} \$7.20 \\ .43 \\ \hline \end{array}$
----	---	---	--	---	--

4.	$\begin{array}{r} 476 \\ 329 \\ \hline \end{array}$	$\begin{array}{r} 761 \\ 264 \\ \hline \end{array}$	$\begin{array}{r} 892 \\ 584 \\ \hline \end{array}$	$\begin{array}{r} \$3.80 \\ 2.75 \\ \hline \end{array}$	$\begin{array}{r} 506 \\ 287 \\ \hline \end{array}$
----	---	---	---	---	---

Copy and write the products. Check your answer by multiplying a second time. (Full time, 8 minutes)

5.	$\begin{array}{r} 327 \\ 4 \\ \hline \end{array}$	$\begin{array}{r} 986 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 675 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} \$4.86 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 609 \\ 9 \\ \hline \end{array}$
----	---	---	---	--	---

6.	$\begin{array}{r} \$4.59 \\ 35 \\ \hline \end{array}$	$\begin{array}{r} 507 \\ 84 \\ \hline \end{array}$	$\begin{array}{r} \$8.60 \\ 74 \\ \hline \end{array}$	$\begin{array}{r} 916 \\ 48 \\ \hline \end{array}$	$\begin{array}{r} 768 \\ 70 \\ \hline \end{array}$
----	---	--	---	--	--

Copy and find the quotients. Check your answers. (Full time, 4 minutes)

7.	$5 \overline{)795}$	$8 \overline{)840}$	$7 \overline{)686}$	$9 \overline{)774}$	$6 \overline{)756}$
----	---------------------	---------------------	---------------------	---------------------	---------------------

## Carpenters' Tools for Boys

Paul and Henry Taylor bought some tools for their tool chest. The clerk asked them to give this sales slip to their father.

## JUDSON HARDWARE

Phone 479

Amo, Texas 501 E. Main St.

Sold by \_\_\_\_\_ Date July 5, 1935Name Paul and Henry Taylor Money Received \$ 10.00Address 701 North Street Charge \_\_\_\_\_

1 Hammer		\$ .65
1 Plane		1.55
3 boxes Assorted Screws	at 10¢	.30
1 Brace		1.20
1 Saw		1.75
3 lbs. Assorted Nails	at 5¢	.15
2 Foot Rules	at 5¢	.10
Total		\$5.70

1. At what store did the boys buy the tools?
2. When did the boys buy their tools?
3. How much did the tools cost?
4. How much money did they hand the clerk?
5. How much change should the boys receive?
6. If the boys divided the cost of the tools equally, how much should each pay?

### The New Window Curtains

1. Mrs. Rose bought curtains for her new house. Look at the sales slip and answer the questions.

<b>D. C. ROCHE COMPANY</b> Maryville, Ohio			
Name	<u>Mrs. J. C. Rose</u>	Date	<u>August 5, 1935</u>
Address	<u>316 Williams St.</u>	Money Received	_____
		Charge	_____
10 yds. Flowered Linen		at \$ .35	\$ 3.50
8 yds. Drapery Silk		at \$1.65	13.20
3 pairs Ruffled Curtains		at \$1.50	4.50
4 pairs Plain Curtains		at \$1.75	7.00
Sold by	108	Total	\$28.20

- (a) At what store did Mrs. Rose buy her curtains?
- (b) How much more did the drapery silk cost than the flowered linen?
- (c) What did the drapery silk cost a yard?
- (d) What did the plain curtains cost a pair?
- (e) How much more did the 4 pairs of plain curtains cost than the 3 pairs of ruffled ones?
- (f) Is the total cost correct?

2. Choose the name of a store. Then make a sales slip for five things that are sold to you at that kind of store.



## Using Sales Slips

**FREEMAN & COMPANY**  
GROCERIES AND MEATS

Phone 6532

709 Market St.  
Marion, Mich.

Name Mrs. C. SlaterAddress 1726 Logan

April 17, 1935

$\frac{1}{2}$ lb. Bacon	\$.13
1 jar Mustard	.15
2 lb. Butter	.46
3 Lemons	.10
12 Eggs	.28
1 jar Olives—ripe	.25
3 lb. Beef Roast	.69
Total	\$2.06

1. From what kind of store did this sales slip come? When did Mrs. Slater buy these things?

2. What was the price of 1 lb. bacon? Of 1 lb. roast? Of 1 lb. butter?

## 170 Reading and Writing Larger Numbers

1. Read these numbers of people living in some of our large cities in 1930:

Indianapolis	364,161	Hartford	164,072
New Haven	162,655	Seattle	365,583
Kansas City	399,746	Pittsburgh	869,817

2. How many figures are in each number above?

The largest number with 6 figures is 999,999. The next number more than 999,999 is **1,000,000**. Read it, **one million**. It is a seven-figure number.

3. Read these seven-figure numbers:

2,000 000      3,000,000      5,000,000      8,000,000

4. In 1930 the population of New York City was 6,930,446. It is read six million, nine hundred thirty thousand, four hundred forty-six.

5. Read the numbers of people in these cities:

Chicago	3,376,438	Detroit	1,568,662
Philadelphia	1,950,961	Los Angeles	1,238,048

6. Write these numbers in figures:

- (a) Three million, five hundred fifty thousand
- (b) Eight million, two hundred ninety thousand
- (c) One million, one hundred nine thousand, six

7. Find how many people live in your state. Write the number in words and in figures.

8. About how many people live in the United States? Write the number in two ways.

1. Write the sums on a folded paper and check.

33	47	94	726	725
9	76	49	73	70
57	8	85	456	809
<u>64</u>	<u>65</u>	<u>6</u>	<u>837</u>	<u>64</u>

\$3.45	\$12.75	\$ .49	\$4.50	\$5.25
.76	1.19	5.00	2.89	98
.90	3.00	4.25	.29	.49
<u>.49</u>	<u>.99</u>	<u>.25</u>	<u>.75</u>	<u>1.19</u>

2. Write the remainders and check.

\$375.25	\$150 75	\$475.25	\$975.00
<u>120.10</u>	<u>85.90</u>	<u>219.50</u>	<u>390.50</u>

3. Find the products.

87	46	37	99	64	36	45
<u>40</u>	<u>50</u>	<u>30</u>	<u>20</u>	<u>70</u>	<u>90</u>	<u>80</u>

4. Below are some amounts saved each week for 4 weeks by 6 pupils. What was the average amount saved in a week by each pupil?

Winifred	Peter	Otto	Mary	Ruth	Eugene
18¢	18¢	13¢	28¢	15¢	24¢
15¢	21¢	16¢	35¢	17¢	15¢
12¢	20¢	10¢	26¢	14¢	29¢
<u>23¢</u>	<u>17¢</u>	<u>9¢</u>	<u>23¢</u>	<u>26¢</u>	<u>16¢</u>



### Going into the Chicken Business

Don Stevens wanted to raise chickens. He agreed to do the work for one year and to keep a record of the cost. Don and his father would share the profit at the end of one year.

1. On March 1 Don and his father went to a poultry man to buy the chicks. They bought:

120 Leghorn chicks at 8¢ each

120 Plymouth Rock chicks at 8¢ each

120 Rhode Island Red chicks at 8¢ each

How many chicks did they buy?

2. Mr. Stevens paid \$9.60 for the 120 Leghorn chicks. How much did he pay for the Plymouth Rock chicks? For the Rhode Island Red chicks? Add and find how much he paid for all the chicks.

3. Find the cost of 360 chicks at 8¢ each. Is the answer the same as the answer to the last question in problem 2?



### Taking Care of the Chicks

During the spring and summer Mr. Stevens bought these things for the care of the chicks:

- 2 Brooder Heaters at \$18 each
- 6 Chick Feeders at 75¢ each
- 3 Drinking Fountains at 90¢ each
- 5 gallons Kerosene at 16¢ a gallon
- 4 bags Chick Starter at \$2.20 a bag
- 8 bags Chick Scratch at \$1.35 a bag
- 8 bags Egg Mash at \$1.50 a bag
- 6 bags Corn and Oats at \$.99 a bag

1. How can you find how much 2 brooder heaters cost at \$18 each? How much did they cost?
2. How much did the 6 chick feeders cost?
3. Make a record with a money column to show what was bought and how much each thing cost.
4. Fill the blanks in the money column and find how much was paid for all the things.

## 174 Finding How Much We Get for Things

### What Don and His Father Sold .

In the month of August Don and his father sold spring chickens. The number, the weight, and the price of each kind are shown in this list.

37 Plymouth Rock roosters (97 lb.)	at 26¢ lb.
43 Rhode Island Red roosters (123 lb.)	at 27¢ lb.
46 Leghorn roosters (98 lb.)	at 18¢ lb.

1. Find how much money they should have for each of the kinds they sold.

2. Make a record to show how much money they should have for each kind, and for all the chickens they sold.

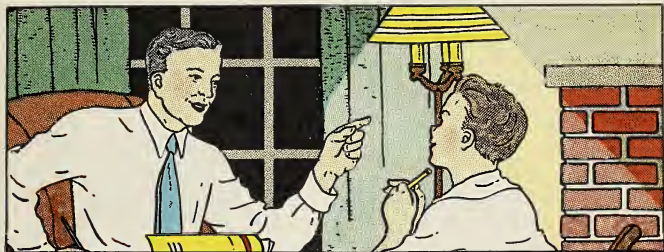
3. In the winter they sold eggs. This list shows how many dozen eggs they sold and the prices they got.

(a) 6 doz. at 24¢	(e) 8 doz. at 22¢
(b) 9 doz. at 34¢	(f) 10 doz. at 29¢
(c) 12 doz. at 27¢	(g) 13 doz. at 26¢
(d) 14 doz. at 28¢	(h) 25 doz. at 19¢

How much did they get for each sale of eggs?

4. How many dozen eggs did Don and his father sell? How much money did they get for all these eggs?

5. Make a problem about selling 7 dozen eggs at today's price. Tell the price and ask the class how much you should get for the eggs.



### Closing the Year's Business

At the end of one year Don Stevens and his father wanted to see if they had gained or lost money, and how much. They studied the record Don had kept. Then they sold the rest of the chickens, and sold the brooders and other things.

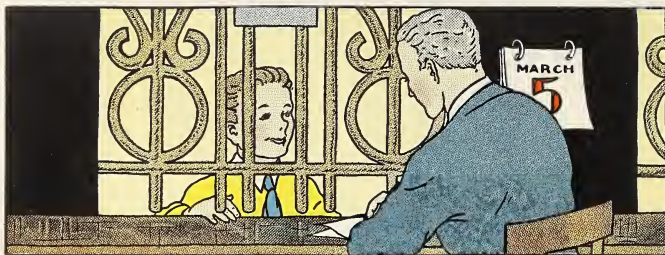
1. Mr. Stevens had paid for chicks \$28.80, and for brooders and other things \$81.54. How much had he paid for all these things?

2. Don and his father had received \$76.07 for the spring chickens and \$24.45 for eggs. How much did they get for the chickens and eggs?

3. The chickens that were left on March 1 were sold for \$66.37. The brooders and other things were sold for \$21.55. How much money did Don and Mr. Stevens get for all these?

4. Study the answers for problems 1, 2, and 3. Did Don and his father gain or lose? How much?

## Four Kinds of Examples in Money Problems



### What Don Did with His Money

1. Don's father agreed that Don should have 25¢ an hour for 104 hours' work in caring for the chickens. How much was Don's pay for his work?

2. The chicken business record showed a gain of \$78.10. After Don's pay was taken out, how much money was left to be shared by Don and his father equally? How much was each one's share?

3. Counting his pay and his share of the profit, how much money did Don get? He bought a hat for \$2.50, a suit of clothes for \$18, and a pair of shoes for \$4.25, and put the remainder in the bank. How much did Don have left to put in the bank?

4. Copy these examples and find the sums:

$$\$49.49 + \$47.83 =$$

$$\$94.95 + \$16.85 =$$

$$\$79.87 + \$4.65 =$$

$$\$19.42 + \$ .58 =$$

1. At 7¢ each, what will be the cost of 110 chicks? Of 90 chicks? Of 130? 140? 70? 100? Point off two places for cents and use the dollar sign in the answers.

2. If the price is 9¢ each, what will each of the above numbers of chicks cost?

3. Jack plans to buy 75 Leghorn chicks at 6¢ each, 75 Plymouth Rock chicks at 7¢ each, and 75 Rhode Island Red chicks at 8¢ each. How much money should he have to buy these chicks?

4. Bob's father needs 6 bags of chick scratch at \$1.35 a bag. How much will he have to pay for this chick scratch?

5. How much should John pay for 3 brooder heaters at \$18 each? You do not need the decimal point in this answer. Why?

6. If the price of kerosene is 15¢ a gallon and you use 3 gallons a month, what will the kerosene cost for 4 months?

In exercises 7 and 8 copy the examples and find the products. Remember to use the dollar sign and the decimal point if they are needed.

7.	\$48	\$ .75	\$ .90	\$1.50	\$1.35	\$2.99
	<u>6</u>	<u>8</u>	<u>7</u>	<u>7</u>	<u>6</u>	<u>8</u>

8.	\$3.40	\$ .99	\$ .80	\$1.35	\$1.30	\$ .85
	<u>6</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>9</u>	<u>4</u>

## The Edison School Grounds

The two fourth grade rooms were asked to make one corner of the school yard more beautiful. The children raised money for this work.

Make a record like this one. After you solve each problem, put your answer in the right place on your record.

## RECORD OF MONEY RAISED

Given by Miss Lee's pupils	\$_____
Given by Miss Brown's pupils	_____
Earned from paper sale	_____
Earned from circus	_____
Total Amount of Money	\$_____

1. The 39 pupils in Miss Lee's room each earned and gave 15 cents. How much did all of them give?

2. In Miss Brown's room 20 pupils earned 15¢ each, 17 pupils earned 10¢ each, and 6 pupils earned 5¢ each. How much did each group earn? How much did they earn together?

3. Miss Lee's pupils had an old paper sale. They gathered 2180 lb. of old paper and sold it at  $\frac{1}{4}$  cent a pound. How much money should they get for the paper?

4. The children in the first four grades gave a circus in each grade. They made \$6.98, \$7.96, \$11.23, and \$15.17. How much did they all make?



### Buying the Shrubs and Rose Bushes

1. The parent-teacher's club collected \$19.71 and made \$55.25 on a play. The record on page 178 shows what the pupils earned. How much do all these amounts make?

2. The pupils bought 3 Japanese white lilacs to plant at each end of the border. How much did these lilacs cost at \$3.75 each?

3. Next to the white lilacs at each end they planned to set 3 lavender lilacs. How much did these cost at \$3.25 each?

4. For the border they also bought 6 purple lilacs at \$1.35 each. How much did they cost?

5. How much did 8 red rose bushes cost at \$1.35 a bush? How much did 8 pink rose bushes cost at \$1.15 each? How much did 8 white rose bushes cost at \$1.20 each?

## 180 Practice in Keeping a Record of Money

### Buying Plants and Bulbs for Flower Beds

1. Copy this record and fill in the cost of each kind of bulbs that the pupils bought.

#### RECORD OF BULBS BOUGHT

Number	Kind and Price	Total Price
2 doz.	Red Darwin Tulips at \$1.50 a doz.	\$_____
2 doz.	Pink Darwin Tulips at \$1.75 a doz.	_____
2 doz.	Daffodils at 75¢ a doz.	_____
6 doz.	Jonquils at 75¢ a doz.	_____
6 doz.	Irises at \$1.50 a doz.	_____
6 doz.	Hyacinths at \$2.00 a doz.	_____

2. At \$6.00 a dozen the pupils bought  $\frac{1}{2}$  dozen yellow chrysanthemum plants, and at \$4.20 a dozen they bought  $\frac{1}{2}$  doz. white chrysanthemum plants. How much did each kind cost? What was the total cost?

3. The pupils bought gladiolus bulbs to bloom late in summer. How much did each of these three kinds cost? How much did they all cost?

- (a) 1 dozen pink gladiolus bulbs at 35¢ each
- (b) 1 dozen yellow gladiolus bulbs at 45¢ each
- (c) 1 dozen lavender gladiolus bulbs at 15¢ each

4. How much did each kind of these plants cost?

- (a) 2 dozen petunias at 35¢ a dozen
- (b) 4 dozen marigolds at 25¢ a dozen
- (c) 4 dozen asters at 30¢ a dozen



### How the Children Planted the Flower Garden

The teacher said the children could draw a plan to a **scale**, to show where to set out the plants and bulbs. The pupils drew a plan on paper smaller than the real plan but divided the same way.

1. You may draw on the blackboard a plan 12 inches wide and 24 inches long. Make the corners square. If we say 1 inch shows the same part that 1 foot will show in the real plan, this is a **scale of 1 inch to the foot**. How large a flower bed does your plan show? Why?

2. In your drawing on the blackboard make six dotted lines the long way of the plan. Make the first dotted line 1 inch from one of the long sides. Keep the dotted lines 2 inches apart.

3. The dotted lines show the rows of plants. How far apart are the rows? How far from the side of the flower bed is each outside row of flowers?

### The Baseball Diamond

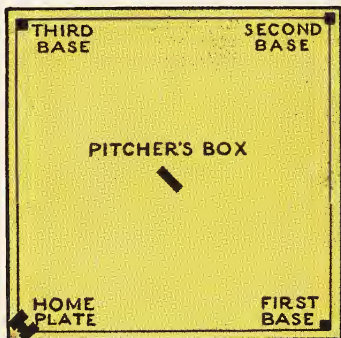
1. The boys marked off a baseball diamond in the school yard. Tom had a plan of the diamond on a scale of 1 inch to 10 feet.

On Tom's plan the distance from home plate to pitcher's box was almost 6 inches. About how far is it from the home plate to pitcher's box on a real diamond?

2. Draw on the blackboard a plan for a baseball diamond on the scale of 1 inch to 10 feet. Make your drawing square like a real baseball diamond. The line from home plate to first base on your plan is 9 inches. How far is it from home plate to first base?

3. Now draw all the lines and mark the bases as they are in the picture. How long is each of these lines on your plan? How long is it on the real baseball diamond?

4. Draw a dotted line about 6 in. long from the home plate straight toward second base. The pitcher's box is at the end of the line. About how many feet from the home plate is the pitcher's box?



## Practice on the Four Kinds of Examples 183

### 1. Add and check:

178	629	427	578	9	909
297	760	824	27	2040	18
982	802	901	9	66	200
<u>578</u>	<u>999</u>	<u>670</u>	<u>888</u>	<u>202</u>	<u>4486</u>

### 2. Subtract and check:

1001	2002	3284	1540	3281	2101
<u>81</u>	<u>84</u>	<u>396</u>	<u>420</u>	<u>874</u>	<u>376</u>
9850	1876	2002	8012	3408	6425
<u>2009</u>	<u>1001</u>	<u>222</u>	<u>26</u>	<u>201</u>	<u>896</u>

### 3. Multiply:

978	801	702	910	360	404
<u>9</u>	<u>22</u>	<u>20</u>	<u>36</u>	<u>28</u>	<u>29</u>
\$5.25	\$9.40	\$7.20	\$4.92	\$6.38	\$9.06
<u>28</u>	<u>35</u>	<u>69</u>	<u>63</u>	<u>85</u>	<u>17</u>

### 4. Divide and check:

8) $\overline{112}$	9) $\overline{945}$	3) $\overline{660}$	8) $\overline{568}$	4) $\overline{840}$	6) $\overline{246}$
9) $\overline{810}$	3) $\overline{273}$	7) $\overline{497}$	8) $\overline{720}$	6) $\overline{660}$	7) $\overline{420}$
4) $\overline{168}$	6) $\overline{360}$	5) $\overline{550}$	9) $\overline{630}$	5) $\overline{405}$	7) $\overline{560}$
4) $\overline{720}$	2) $\overline{644}$	7) $\overline{504}$	8) $\overline{640}$	4) $\overline{320}$	9) $\overline{747}$
5) $\overline{860}$	9) $\overline{648}$	7) $\overline{714}$	5) $\overline{1000}$	6) $\overline{156}$	8) $\overline{984}$

**T H E   G O A L**

For the pupils who have reached all the Goals.

On your paper write the numbers 1, 2, 3, 4, 5.

Read problem 1 and think how to solve it. Under 1 on your paper write A (add), S (subtract), M (multiply), or D (divide) to show how you should solve the problem. Do the same with each problem. If the problem has two steps, write two of these letters under the number. Then solve the problem.

1. In a recent year the value of property lost by fire in Texas was \$19,569,922. In Ohio the loss was \$18,305,234. Which state lost more? How much more?

2. Carl's brother earns \$4.75 a day. How much will he earn in 26 days?

3. John earned \$16 in 4 days. At the same pay, how much can he earn in 9 days?

4. Carol weighs 77 pounds. Ruth weighs 69. Sue weighs 109. What is their average weight?

5. At the bookstore Dorothy bought a reader for 48¢, a music book for 30¢, pencils for 6¢, tablets for 18¢, and an eraser for 5¢. She handed the clerk a dollar and a quarter. How much change should she receive?

## CHAPTER 9

# GROWING STRONG IN ARITHMETIC

## How to Write Each Product



### Buying a Farm

1. Mr. Jones bought a 360-acre farm. He paid \$95 an acre. How much did he pay for the farm?

$$360 \times \$95 = ?$$

To find the product, it is easier to multiply by the smaller number.

Multiply 360 by 5. Place the product 1800 with its right-hand figure under the 5 you multiply by.

Multiply 360 by 9. Place the product 3240 with its right-hand figure under the 9 you multiply by.

Add. The final product is 34,200.

Mr. Jones paid \$34,200 for the farm.

360
95
<hr/>
1800
3240
<hr/>
34200

## 1. Multiply 748 by 57.

To find the product, write the numbers as shown at the left.

$$\begin{array}{r}
 748 \\
 57 \\
 \hline
 6 \\
 \hline
 0 \\
 \hline
 42636
 \end{array}$$

- (a) With which figure in the multiplier do you begin to multiply?
- (b) Where do you place the right-hand figure of the first product?
- (c) Where do you place the right-hand figure of the second product?
- (d) Copy the example and fill all the blanks correctly.
- (e) Add. Is your final product the same as the one at the left? Read it.
- (f) Check by going over each step carefully again.

Multiply by each figure in the multiplier. Write each product with the right-hand figure under the figure multiplied by. Add the products.

Find the products. Then say the steps again.

2. 635	742	678	439	783	427
<u>34</u>	<u>67</u>	<u>56</u>	<u>65</u>	<u>63</u>	<u>45</u>

3. 893	961	975	686	749	857
<u>78</u>	<u>76</u>	<u>89</u>	<u>97</u>	<u>39</u>	<u>94</u>

1. Read across. Read  $\times$  as **times**. Write the answers on folded paper without writing the examples.

$10 \times 4 =$	$10 \times 7 =$	$10 \times 40 =$	$10 \times 70 =$
$10 \times 12 =$	$10 \times 15 =$	$10 \times 21 =$	$10 \times 31 =$
$10 \times 75 =$	$20 \times 25 =$	$30 \times 30 =$	$40 \times 50 =$

2. Look at exercise 1, and tell:

(a) How to multiply a number by 10 in the short way;

(b) How to multiply a number by 20 in the short way; how to multiply by 30.

3. Copy and finish these examples:

Long Way	Short Way	Long	Short	Long	Short
$\begin{array}{r} 476 \\ 10 \\ \hline 000 \\ 476 \\ \hline 4760 \end{array}$	$\begin{array}{r} 476 \\ 10 \\ \hline 4760 \end{array}$	$\begin{array}{r} 394 \\ 20 \\ \hline 000 \\ 788 \\ \hline 7880 \end{array}$	$\begin{array}{r} 394 \\ 20 \\ \hline \end{array}$	$\begin{array}{r} 274 \\ 60 \\ \hline 000 \\ 1644 \\ \hline \end{array}$	$\begin{array}{r} 274 \\ 60 \\ \hline \end{array}$

4. Copy these examples and write the products:

$\begin{array}{r} 27 \\ 30 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ 20 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ 40 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ 30 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ 30 \\ \hline \end{array}$	$\begin{array}{r} 66 \\ 20 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ 40 \\ \hline \end{array}$
$\begin{array}{r} 123 \\ 60 \\ \hline \end{array}$	$\begin{array}{r} 135 \\ 80 \\ \hline \end{array}$	$\begin{array}{r} 745 \\ 70 \\ \hline \end{array}$	$\begin{array}{r} 859 \\ 60 \\ \hline \end{array}$	$\begin{array}{r} 769 \\ 50 \\ \hline \end{array}$	$\begin{array}{r} 987 \\ 90 \\ \hline \end{array}$	$\begin{array}{r} 970 \\ 10 \\ \hline \end{array}$

If zero is in units' place in the multiplier, write zero in units' place in the product. Then multiply by the tens' figure.



### The Salvation Army Sends Out Food

1. The Salvation Army gave away 90 baskets of food. It cost \$2.75 to fill each basket. How much did it cost to fill all these baskets?

$$\$2.75 = 275¢$$

$$90 \times 275 = ?$$

#### Short Way

$$\begin{array}{r} 275 \\ 90 \\ \hline 2--50 \end{array}$$

Copy the example and fill all the blanks correctly. Then answer these questions:

Why do we place 0 in the product under 0 of the multiplier?

When you multiply 275 by 9, where do you place the right-hand figure of this product?

What is the final product?

The answer is a money number. What two signs should you use in writing this money number, and where should you place each of these signs? Write the money number.

How much did it cost to fill the baskets?

You may sometimes have multiplication problems with zero in tens' place in the multiplicand. Remember that any number times 0 equals 0, and zero times any number equals 0.

1. Susan said there were 705 hills of corn in one row in her father's field. There are 80 equal rows. How many hills of corn are in the field?

$$80 \times 705 = ?$$

$\begin{array}{r} 705 \\ 80 \\ \hline 56400 \end{array}$
--

Write 705 above 80 on your paper and multiply. Why do we put 0 under 0 of 80?

Multiply:  $8 \times 5 = \underline{\quad}$  Write 0 under 8 and remember  $\underline{\quad}$ .

Multiply:  $8 \times 0 = 0$ , and 4 remembered make  $\underline{\quad}$ . Write  $\underline{\quad}$  in the product.

Multiply:  $8 \times 7 = 56$ . Write 56.

The product is  $\underline{\quad}$ .

There are  $\underline{\quad}$  hills of corn in the field.

Say all the steps in the problem again. Is your answer correct?

2. Last year the Richland ranch sold 90 colts at \$36 each. How much money should the ranch get for these colts?

3. What would 60 ponies cost at \$108 each?

4. How much is 0 times 15? 7 times 0?

On this page check by saying the steps in each example again.

1. Copy and multiply these numbers.

(a)	$\begin{array}{r} 234 \\ \underline{30} \end{array}$	$\begin{array}{r} 506 \\ \underline{62} \end{array}$	$\begin{array}{r} 534 \\ \underline{50} \end{array}$	$\begin{array}{r} 403 \\ \underline{38} \end{array}$	$\begin{array}{r} 345 \\ \underline{40} \end{array}$	$\begin{array}{r} 540 \\ \underline{52} \end{array}$
-----	--	--	--	--	--	--

(b)	$\begin{array}{r} 372 \\ \underline{40} \end{array}$	$\begin{array}{r} 407 \\ \underline{53} \end{array}$	$\begin{array}{r} 748 \\ \underline{70} \end{array}$	$\begin{array}{r} 807 \\ \underline{64} \end{array}$	$\begin{array}{r} 260 \\ \underline{76} \end{array}$	$\begin{array}{r} 400 \\ \underline{69} \end{array}$
-----	--	--	--	--	--	--

(c)	$\begin{array}{r} 549 \\ \underline{83} \end{array}$	$\begin{array}{r} 826 \\ \underline{58} \end{array}$	$\begin{array}{r} 775 \\ \underline{78} \end{array}$	$\begin{array}{r} 874 \\ \underline{69} \end{array}$	$\begin{array}{r} 694 \\ \underline{84} \end{array}$	$\begin{array}{r} 987 \\ \underline{43} \end{array}$
-----	--	--	--	--	--	--

(d)	$\begin{array}{r} 598 \\ \underline{50} \end{array}$	$\begin{array}{r} 483 \\ \underline{90} \end{array}$	$\begin{array}{r} 921 \\ \underline{30} \end{array}$	$\begin{array}{r} 939 \\ \underline{40} \end{array}$	$\begin{array}{r} 768 \\ \underline{90} \end{array}$	$\begin{array}{r} 896 \\ \underline{80} \end{array}$
-----	--	--	--	--	--	--

2. Multiply each of these numbers by 20:

8	6	7	9	12	19	16	15	30	50
---	---	---	---	----	----	----	----	----	----

3. Copy and write the products.

(a)	$\begin{array}{r} 340 \\ \underline{65} \end{array}$	$\begin{array}{r} 570 \\ \underline{25} \end{array}$	$\begin{array}{r} 305 \\ \underline{87} \end{array}$	$\begin{array}{r} 609 \\ \underline{56} \end{array}$	$\begin{array}{r} 508 \\ \underline{67} \end{array}$	$\begin{array}{r} 906 \\ \underline{54} \end{array}$
-----	--	--	--	--	--	--

(b)	$\begin{array}{r} 950 \\ \underline{48} \end{array}$	$\begin{array}{r} 760 \\ \underline{43} \end{array}$	$\begin{array}{r} 607 \\ \underline{38} \end{array}$	$\begin{array}{r} 709 \\ \underline{45} \end{array}$	$\begin{array}{r} 908 \\ \underline{97} \end{array}$	$\begin{array}{r} 809 \\ \underline{49} \end{array}$
-----	--	--	--	--	--	--

4. These examples have zeros. See if you can find the products.

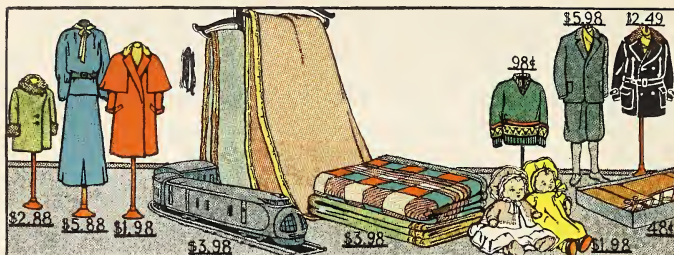
$\begin{array}{r} 405 \\ \underline{60} \end{array}$	$\begin{array}{r} 450 \\ \underline{30} \end{array}$	$\begin{array}{r} 675 \\ \underline{30} \end{array}$	$\begin{array}{r} 600 \\ \underline{30} \end{array}$	$\begin{array}{r} 705 \\ \underline{50} \end{array}$	$\begin{array}{r} 850 \\ \underline{56} \end{array}$
--	--	--	--	--	--

1. Make a blank with columns like those in this exercise. On the blank spaces after each amount of money show two ways it may be written in figures. The first line will show you the two ways.

Ten cents	10¢	\$ .10
Twenty-five cents	_____	_____
Fifteen cents	_____	_____
Five cents	_____	_____
Eighty cents	_____	_____
One dollar	_____	_____
One dollar and twenty-five cents	_____	_____
One dollar and a quarter	_____	_____
One dollar and fifty cents	_____	_____
One dollar and a half	_____	_____
Five dollars	_____	_____
Ten dollars	_____	_____
Ten dollars and 1 cent	_____	_____
Twenty-five dollars and five cents	_____	_____
One hundred dollars	_____	_____

2. Read these sums of money:

(1)	\$.35	\$.80	\$.76	\$.05	\$1.01
(2)	\$.07	\$1.08	\$3.20	\$5.00	\$9.09
(3)	\$10.00	\$15.04	\$29.90	\$17.09	\$11.01
(4)	\$120.00	\$101.01	\$100.09	\$200.01	\$400.10
(5)	\$809.90	\$345.00	\$601.10	\$947.25	\$1000.00



### Shopping at Scott's

Scott's store offers the following bargains:

Electric Trains	\$3.98	Baby Dolls	\$1.98
Boys' Sweaters	\$ .98	Children's Coats	\$2.88
All Wool Blankets	\$3.98	Towel Sets	\$ .48
Boys' Suits	\$5.98	Children's Raincoats	\$1.98
Smart Dresses	\$5.88	Leather Coats	\$2.49

1. Mrs. Ray bought for John an electric train, a suit, a sweater, and a leather coat. Make the sales slip.

2. Mrs. Sims bought 3 of the dresses and a leather coat. How much did they cost?

3. How much more does a boy's suit cost than 2 leather coats?

4. Mrs. Taylor bought a baby doll. She handed the clerk \$5.00. How much change should she get?

5. How much will these things cost: a train, a sweater, a suit, a dress, and a towel set?

Remember to point off two places for cents, and place a dollar sign before the answer.

Write the answers on a folded paper. Multiply:

1. \$ .05	\$ .07	\$ .08	\$ .09	\$ .06	\$ .09
9	6	8	4	8	7

2. \$ .12	\$ .10	\$ .11	\$ .14	\$ .15	\$ .29
8	7	9	6	6	3

3. \$ .47	\$ .98	\$ .99	\$ .49	\$ .68	\$ .87
6	3	4	7	9	5

4. \$2.35	\$4.87	\$5.89	\$7.46	\$6.98
2	3	6	7	9

5. \$12.25	\$16.09	\$10.20	\$94.85	\$25.75
4	2	5	8	3

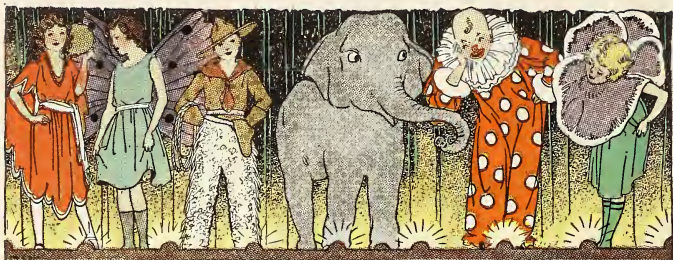
Copy these examples and find the products.

6. \$ .59	\$ .67	\$ .36	\$ .45	\$ .93
27	48	29	54	67

7. \$4.26	\$3.17	\$2.07	\$8.01	\$9.10
23	54	67	86	79

8. \$14.75	\$25.78	\$78.09	\$98.75	\$87.65
38	75	74	46	98

9. \$3.25	\$8.76	\$7.89	\$6.40	\$9.04
67	35	38	81	69



### The Fourth Grade Play

In each of these problems tell what you must find first. Then tell what you should do to finish solving the problem. Next answer the question in the problem.

1. The fourth grade gave a play in the school auditorium. The costumes for 19 boys and 23 girls were rented at \$1.50 each. How much did it cost for the use of the costumes?

2. In the audience there were 252 grown people. There were also 28 pupils from the first grade, 38 from the second, 36 from the third, 5 from the fourth, 44 from the fifth, and 37 from the sixth. How many more grown people were in the audience than pupils?

3. The grown people paid 30¢ each for tickets. How much of this money did the fourth grade have left after paying for the use of the costumes?

1. How many nickels can you get for a quarter?  
For a half-dollar? For a dollar? For two dollars?  
For three dollars?

2. How many dimes can you get for one dollar?  
For a half-dollar? For a dollar and a half?

3. How many quarters can you get for one dollar?  
For three dollars? For five dollars?

Copy the record below and fill the blanks.

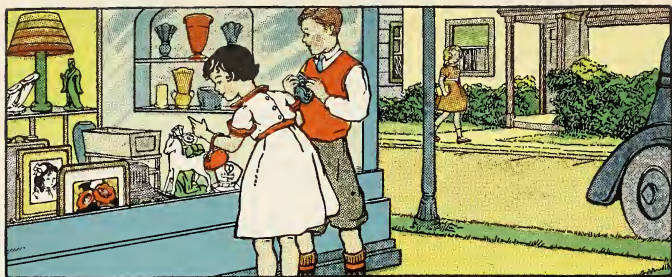
4. Tell the correct amount of change you should receive and in what coins it may be.

Example: What I bought cost 19¢. I handed the clerk 25¢. I should receive 6¢ change—  
1 penny and 1 nickel.

Cost of what I bought	Money I handed the clerk	Change I should get
27¢	35¢	_____
57¢	75¢	_____
19¢	50¢	_____
61¢	\$1.00	_____
79¢	\$1.00	_____

5. Write the sums on a paper.

\$1.25	\$ .50	\$ .88	\$3.75	\$4.00	\$3.05
.99	1.78	.49	4.09	1.29	6.00
.40	2.49	.19	.25	.84	.29
<u>1.10</u>	<u>3.00</u>	<u>.78</u>	<u>.05</u>	<u>1.07</u>	<u>.59</u>



### Buying Gifts for Mother and Father

1. Mary has 2 quarters, 2 dimes, 5 nickels, and 5 pennies. She is buying a present for her mother for 39 cents. What pieces of her money will make 39 cents?

2. What three pieces of money can she use to get 1 cent in change?

3. If Mary hands the clerk three pieces of her money amounting to 45 cents, what three coins will she use? What change will she get?

4. How can Mary pay for the gift by using only two of her coins? What change will she get?

5. Peter has a dollar, 3 quarters, 4 dimes, 3 nickels, and 5 pennies. He is buying his father a gift which costs \$1.19. What two pieces of money can he use to get 6 cents in change?

6. What pieces of Peter's money will make \$1.19?

# Review Exercises in Money Numbers 197

Write the sums on your paper. Check your answers.

1.	\$2.19	\$8.75	\$4.29	\$8.02	\$6.75
	4.30	6.00	7.75	5.05	1.29
	7.98	.88	6.38	3.99	4.68
	<u>6.07</u>	<u>8.66</u>	<u>9.16</u>	<u>7.75</u>	<u>9.07</u>

2.	\$27.35	\$75.00	\$96.28	\$325.17	\$725.00
	43.80	56.69	85.57	133.64	796.75
	17.74	63.08	60.43	278.41	357.89
	<u>30.47</u>	<u>38.54</u>	<u>47.86</u>	<u>403.79</u>	<u>804.64</u>

Subtract, and check your answers.

3.	\$5.89	\$6.43	\$8.50	\$9.00	\$7.00
	<u>4.95</u>	<u>2.75</u>	<u>6.95</u>	<u>4.37</u>	<u>5.94</u>

4.	\$25.17	\$78.50	\$89.35	\$125.25	\$784.80
	<u>12.35</u>	<u>29.70</u>	<u>27.85</u>	<u>118.78</u>	<u>539.64</u>

5.	\$18.00	\$75.19	\$880.00	\$100.50	\$350.00
	<u>9.25</u>	<u>7.45</u>	<u>472.28</u>	<u>74.25</u>	<u>89.25</u>

Copy and multiply. Remember to point off 2 places for cents.

6.	\$3.25	\$5.78	\$2.29	\$4.39	\$8.15	\$4.75
	<u>4</u>	<u>6</u>	<u>8</u>	<u>7</u>	<u>5</u>	<u>9</u>

7.	\$6.47	\$9.67	\$8.70	\$9.65	\$4.36	\$9.84
	<u>12</u>	<u>34</u>	<u>65</u>	<u>47</u>	<u>83</u>	<u>79</u>



### **Carl Pays the Hotel Bill**

Read each problem carefully. Tell what you must find first. Then tell what you should do to finish solving the problem. Next find the answer.

1. Carl and Bob stayed at a hotel 3 days. The room cost them \$3 a day for the two boys. Their meals in the coffee shop amounted to \$1.35 a day for each boy. The boys shared equally the cost of the room. What was each boy's expense for 1 day at the hotel?

2. When the boys left, Carl paid their bill for the use of the room 3 days at \$3 a day and a charge of 20 cents for use of the telephone. What change should Carl receive from ten dollars?

3. See problems 1 and 2 and find the sum of Carl and Bob's expenses for the three days.

4. Four other guests at the hotel paid their bills the same morning. Their bills were \$8.05, \$16.50, \$9.45, and \$22. What did these four bills average?

1. Without using a pencil give the products. Read the sign  $\times$  as **times**.

$30 \times 6 =$

$50 \times 30 =$

$70 \times 60 =$

$50 \times 8 =$

$20 \times 22 =$

$60 \times 20 =$

$40 \times 9 =$

$40 \times 80 =$

$30 \times 32 =$

$60 \times 10 =$

$90 \times 11 =$

$80 \times 100 =$

2. Write the products on a folded paper.

$\begin{array}{r} 68 \\ 20 \\ \hline \end{array}$

$\begin{array}{r} 49 \\ 60 \\ \hline \end{array}$

$\begin{array}{r} 72 \\ 30 \\ \hline \end{array}$

$\begin{array}{r} 95 \\ 80 \\ \hline \end{array}$

$\begin{array}{r} 32 \\ 40 \\ \hline \end{array}$

$\begin{array}{r} 57 \\ 90 \\ \hline \end{array}$

$\begin{array}{r} 82 \\ 50 \\ \hline \end{array}$

$\begin{array}{r} 43 \\ 70 \\ \hline \end{array}$

$\begin{array}{r} 96 \\ 30 \\ \hline \end{array}$

$\begin{array}{r} 54 \\ 80 \\ \hline \end{array}$

$\begin{array}{r} 58 \\ 70 \\ \hline \end{array}$

$\begin{array}{r} 85 \\ 30 \\ \hline \end{array}$

$\begin{array}{r} 76 \\ 20 \\ \hline \end{array}$

$\begin{array}{r} 97 \\ 40 \\ \hline \end{array}$

$\begin{array}{r} 591 \\ 40 \\ \hline \end{array}$

$\begin{array}{r} 342 \\ 60 \\ \hline \end{array}$

$\begin{array}{r} 401 \\ 90 \\ \hline \end{array}$

$\begin{array}{r} 260 \\ 40 \\ \hline \end{array}$

$\begin{array}{r} 300 \\ 50 \\ \hline \end{array}$

$\begin{array}{r} 600 \\ 70 \\ \hline \end{array}$

$\begin{array}{r} 900 \\ 80 \\ \hline \end{array}$

3. Say the products without using a pencil.

$10 \times 42 =$

$10 \times 36 =$

$10 \times 87 =$

$10 \times 54 =$

4. Can you say the products without using a pencil?

$30 \times 91 =$

$40 \times 72 =$

$80 \times 31 =$

$90 \times 60 =$

$5 \times 67 =$

$3 \times 54 =$

$6 \times 73 =$

$9 \times 51 =$

5. See how quickly you can say the answers.

$\frac{1}{2} \text{ bu.} = \underline{\hspace{1cm}} \text{ pk.}$

$\frac{1}{4} \text{ gal.} = \underline{\hspace{1cm}} \text{ pt.}$

$\frac{1}{4} \text{ hr.} = \underline{\hspace{1cm}} \text{ min.}$

$\frac{1}{3} \text{ doz.} = \underline{\hspace{1cm}} \text{ things}$

$\frac{1}{3} \text{ ft.} = \underline{\hspace{1cm}} \text{ in.}$

$\frac{1}{2} \text{ gal.} = \underline{\hspace{1cm}} \text{ qt.}$

$\frac{1}{4} \text{ ft.} = \underline{\hspace{1cm}} \text{ in.}$

$\frac{1}{3} \text{ yd.} = \underline{\hspace{1cm}} \text{ in.}$

$\frac{1}{4} \text{ yd.} = \underline{\hspace{1cm}} \text{ in.}$

**KNOWING THAT YOU KNOW**

Copy the examples in each test and multiply.

**Test 1. Two-Figure Multipliers**

$\begin{array}{r} 44 \\ 36 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ 64 \\ \hline \end{array}$	$\begin{array}{r} 73 \\ 18 \\ \hline \end{array}$	$\begin{array}{r} 56 \\ 29 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ 25 \\ \hline \end{array}$	$\begin{array}{r} 91 \\ 37 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ 16 \\ \hline \end{array}$
$\begin{array}{r} 359 \\ 24 \\ \hline \end{array}$	$\begin{array}{r} 435 \\ 19 \\ \hline \end{array}$	$\begin{array}{r} 194 \\ 53 \\ \hline \end{array}$	$\begin{array}{r} 563 \\ 46 \\ \hline \end{array}$	$\begin{array}{r} 847 \\ 33 \\ \hline \end{array}$	$\begin{array}{r} 726 \\ 17 \\ \hline \end{array}$	$\begin{array}{r} 288 \\ 65 \\ \hline \end{array}$

**Test 2. Zero in the Multiplicand**

$\begin{array}{r} 250 \\ 8 \\ \hline \end{array}$	$\begin{array}{r} 409 \\ 9 \\ \hline \end{array}$	$\begin{array}{r} 760 \\ 5 \\ \hline \end{array}$	$\begin{array}{r} 807 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 2050 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 390 \\ 6 \\ \hline \end{array}$	$\begin{array}{r} 340 \\ 25 \\ \hline \end{array}$
$\begin{array}{r} 504 \\ 37 \\ \hline \end{array}$	$\begin{array}{r} 650 \\ 46 \\ \hline \end{array}$	$\begin{array}{r} 309 \\ 18 \\ \hline \end{array}$	$\begin{array}{r} 720 \\ 29 \\ \hline \end{array}$	$\begin{array}{r} 3006 \\ 7 \\ \hline \end{array}$	$\begin{array}{r} 807 \\ 57 \\ \hline \end{array}$	$\begin{array}{r} 470 \\ 89 \\ \hline \end{array}$

**Test 3. Zero in the Multiplier**

$\begin{array}{r} 65 \\ 40 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ 30 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ 20 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ 60 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ 50 \\ \hline \end{array}$	$\begin{array}{r} 46 \\ 30 \\ \hline \end{array}$	$\begin{array}{r} 68 \\ 90 \\ \hline \end{array}$
$\begin{array}{r} \$2.26 \\ 50 \\ \hline \end{array}$	$\begin{array}{r} \$4.00 \\ 20 \\ \hline \end{array}$	$\begin{array}{r} \$5.45 \\ 40 \\ \hline \end{array}$	$\begin{array}{r} 306 \\ 50 \\ \hline \end{array}$	$\begin{array}{r} 720 \\ 30 \\ \hline \end{array}$	$\begin{array}{r} 807 \\ 40 \\ \hline \end{array}$	$\begin{array}{r} 490 \\ 80 \\ \hline \end{array}$

**Test 4. Harder Multiplication**

$\begin{array}{r} 785 \\ 69 \\ \hline \end{array}$	$\begin{array}{r} 462 \\ 79 \\ \hline \end{array}$	$\begin{array}{r} 830 \\ 47 \\ \hline \end{array}$	$\begin{array}{r} 527 \\ 64 \\ \hline \end{array}$	$\begin{array}{r} 695 \\ 95 \\ \hline \end{array}$	$\begin{array}{r} 386 \\ 78 \\ \hline \end{array}$	$\begin{array}{r} 876 \\ 89 \\ \hline \end{array}$
--	--	--	--	--	--	--

Check your answers as your teacher reads the correct answers. If you made mistakes in any of these tests, work the exercises numbered the same on pages 201 and 202. If you made no mistakes, skip pages 201 and 202.

## HELPING YOU TO KNOW

## Exercise 1. Two-Figure Multipliers

91	194	56	847	82	44	359
<u>37</u>	<u>53</u>	<u>29</u>	<u>33</u>	<u>64</u>	<u>36</u>	<u>24</u>
73	435	563	37	288	69	726
<u>18</u>	<u>19</u>	<u>46</u>	<u>25</u>	<u>65</u>	<u>16</u>	<u>17</u>

## Exercise 2. Zero in the Multiplicand

470	390	3006	807	309	409	504
<u>89</u>	<u>6</u>	<u>7</u>	<u>6</u>	<u>18</u>	<u>9</u>	<u>37</u>
250	650	2050	720	760	807	340
<u>8</u>	<u>46</u>	<u>7</u>	<u>29</u>	<u>5</u>	<u>57</u>	<u>25</u>

## Exercise 3. Zero in the Multiplier

Copy and multiply. Watch the zeros. Remember the short way to multiply by a number when one of its figures is 0.

46	58	68	97	74	65	83
<u>30</u>	<u>20</u>	<u>90</u>	<u>50</u>	<u>30</u>	<u>40</u>	<u>60</u>
807	306	\$5.45	490	\$4.00	720	\$2.26
<u>40</u>	<u>50</u>	<u>40</u>	<u>80</u>	<u>20</u>	<u>30</u>	<u>50</u>

## Exercise 4. Harder Multiplication

Copy and find the products. Then check.

386	527	462	830	785	876	695
<u>78</u>	<u>64</u>	<u>79</u>	<u>47</u>	<u>69</u>	<u>89</u>	<u>95</u>

## HELPING YOU TO KNOW

### Exercise 1. Helps in Multiplication Examples

Without using a pencil, give the answers.

$3 \times 5 + 4 =$

$5 \times 4 + 3 =$

$6 \times 6 + 5 =$

$4 \times 9 + 2 =$

$7 \times 9 + 1 =$

$6 \times 5 + 3 =$

$6 \times 1 + 7 =$

$8 \times 0 + 6 =$

$7 \times 6 + 4 =$

$8 \times 7 + 3 =$

$9 \times 3 + 4 =$

$3 \times 0 + 6 =$

### Exercise 2. Zero in the Multiplicand

Copy and multiply. Watch the zeros. Remember that any number times 0 equals 0.

$$\begin{array}{r} 860 \\ 25 \end{array}$$

$$\begin{array}{r} 700 \\ 78 \end{array}$$

$$\begin{array}{r} 360 \\ 64 \end{array}$$

$$\begin{array}{r} 490 \\ 47 \end{array}$$

$$\begin{array}{r} 600 \\ 59 \end{array}$$

$$\begin{array}{r} 705 \\ 87 \end{array}$$

$$\begin{array}{r} 970 \\ 84 \end{array}$$

$$\begin{array}{r} 750 \\ 38 \end{array}$$

$$\begin{array}{r} 870 \\ 46 \end{array}$$

$$\begin{array}{r} 940 \\ 46 \end{array}$$

$$\begin{array}{r} 539 \\ 94 \end{array}$$

$$\begin{array}{r} 690 \\ 57 \end{array}$$

$$\begin{array}{r} 980 \\ 95 \end{array}$$

$$\begin{array}{r} 400 \\ 86 \end{array}$$

### Exercise 3. Zero in the Multiplier

Copy and multiply. Watch the zeros. Remember the short way to multiply by a number when one of its figures is 0.

$$\begin{array}{r} 306 \\ 70 \end{array}$$

$$\begin{array}{r} 509 \\ 40 \end{array}$$

$$\begin{array}{r} 907 \\ 30 \end{array}$$

$$\begin{array}{r} 608 \\ 90 \end{array}$$

$$\begin{array}{r} 803 \\ 60 \end{array}$$

$$\begin{array}{r} 405 \\ 90 \end{array}$$

$$\begin{array}{r} 789 \\ 40 \end{array}$$

### Exercise 4. Harder Multiplication

Copy and find the products. Then check.

$$\begin{array}{r} 836 \\ 95 \end{array}$$

$$\begin{array}{r} 281 \\ 67 \end{array}$$

$$\begin{array}{r} 374 \\ 85 \end{array}$$

$$\begin{array}{r} 569 \\ 78 \end{array}$$

$$\begin{array}{r} 673 \\ 84 \end{array}$$

$$\begin{array}{r} 397 \\ 79 \end{array}$$

$$\begin{array}{r} 897 \\ 43 \end{array}$$

**THE GOAL**

For the pupils who made no mistakes on page 200.

Read each problem and answer these questions:

What is wanted?

What is given?

What must I find first?

What should I then do to finish  
solving the problem?

1. If you know that an 8-pound package of sugar sells for 40¢, how can you find how much you should be asked to pay for 5 pounds?

2. Bob sold an average of 64 magazines a week in April, May, and June. How can you find how many he sold in the three months?

3. The bus fare of each pupil riding to a picnic and returning is 15 cents for the trip. There are 24 pupils going. How can you find how much money the bus driver should receive?

4. Carol and her father drove 405 miles in 9 hours. How can you find how much faster or slower than 40 miles an hour they drove?

5. When Ned started on a trip, the speedometer in the car read 8465 miles. At the end of the trip what should Ned do first to find how many miles the car was driven on the trip? After he has done that, how can he find the number of miles?

**KNOWING THAT YOU KNOW**

In these examples you will use the division habits you have formed in the fourth grade.

Copy and find the quotients. Check each answer.

**Test 1**

$6\overline{)222}$

$9\overline{)5070}$

$644 \div 7 =$

$405 \div 8 =$

$9\overline{)873}$

$6\overline{)4086}$

$899 \div 4 =$

$470 \div 5 =$

$7\overline{)588}$

$8\overline{)2472}$

$739 \div 9 =$

$298 \div 6 =$

$8\overline{)299}$

$5\overline{)2365}$

$922 \div 6 =$

$375 \div 9 =$

**Test 2**

$4\overline{)356}$

$7\overline{)444}$

$6\overline{)138}$

$3\overline{)894}$

$4\overline{)833}$

$6\overline{)504}$

$5\overline{)709}$

$7\overline{)322}$

$6\overline{)168}$

$7\overline{)671}$

$5\overline{)935}$

$8\overline{)584}$

$2\overline{)260}$

$8\overline{)480}$

$8\overline{)739}$

$9\overline{)490}$

$4\overline{)284}$

$3\overline{)792}$

$9\overline{)278}$

$3\overline{)560}$

$6\overline{)276}$

$9\overline{)603}$

$8\overline{)102}$

$4\overline{)716}$

**Test 3**

$4\overline{)672}$

$7\overline{)189}$

$4\overline{)326}$

$8\overline{)200}$

$3\overline{)807}$

$5\overline{)395}$

$6\overline{)978}$

$5\overline{)718}$

$9\overline{)144}$

$4\overline{)238}$

$5\overline{)240}$

$6\overline{)900}$

$7\overline{)289}$

$3\overline{)144}$

$8\overline{)688}$

$7\overline{)384}$

$7\overline{)623}$

$9\overline{)243}$

If you made any mistakes in these tests, work the exercises numbered the same on pages 205 and 206. If you made no mistakes, skip pages 205 and 206.

**HELPING YOU TO KNOW****Exercise 1**

Say each quotient and remainder as quickly as you can without making a mistake.

$6\overline{)298}$	$9\overline{)873}$	$644 \div 7 =$	$2472 \div 8 =$
$9\overline{)739}$	$5\overline{)470}$	$375 \div 9 =$	$4086 \div 6 =$
$8\overline{)299}$	$6\overline{)922}$	$222 \div 6 =$	$2365 \div 5 =$
$8\overline{)405}$	$4\overline{)899}$	$588 \div 7 =$	$5070 \div 9 =$

**Exercise 2**

Copy and find the quotients and remainders. Check each answer.

$3\overline{)792}$	$6\overline{)504}$	$7\overline{)322}$	$8\overline{)102}$	$5\overline{)709}$	$8\overline{)480}$
$7\overline{)671}$	$7\overline{)444}$	$6\overline{)138}$	$4\overline{)833}$	$8\overline{)584}$	$6\overline{)276}$
$9\overline{)278}$	$3\overline{)894}$	$9\overline{)490}$	$4\overline{)356}$	$6\overline{)168}$	$3\overline{)560}$
$4\overline{)284}$	$4\overline{)716}$	$2\overline{)260}$	$5\overline{)935}$	$9\overline{)603}$	$8\overline{)739}$

**Exercise 3**

Copy and find the quotients and remainders. Then check.

$3\overline{)807}$	$4\overline{)326}$	$5\overline{)240}$	$9\overline{)144}$	$7\overline{)384}$	$4\overline{)238}$
$7\overline{)623}$	$7\overline{)289}$	$8\overline{)200}$	$5\overline{)395}$	$6\overline{)978}$	$3\overline{)144}$
$8\overline{)688}$	$5\overline{)718}$	$7\overline{)189}$	$9\overline{)243}$	$4\overline{)672}$	$6\overline{)900}$

**HELPING YOU TO KNOW****Exercise 1**

Say each quotient and remainder:

$58 \div 7 =$        $84 \div 9 =$        $53 \div 6 =$        $29 \div 8 =$

$65 \div 9 =$        $26 \div 4 =$        $67 \div 7 =$        $50 \div 7 =$

$43 \div 6 =$        $38 \div 7 =$        $75 \div 9 =$        $26 \div 3 =$

$37 \div 5 =$        $46 \div 8 =$        $36 \div 4 =$        $69 \div 8 =$

Copy and find the quotients. Check by multiplying and add the remainder to the product.

$4 \overline{)338}$        $9 \overline{)824}$        $4 \overline{)437}$        $8 \overline{)165}$        $6 \overline{)147}$        $5 \overline{)785}$

$8 \overline{)753}$        $3 \overline{)905}$        $9 \overline{)374}$        $6 \overline{)281}$        $3 \overline{)268}$        $7 \overline{)903}$

$6 \overline{)648}$        $6 \overline{)526}$        $5 \overline{)227}$        $7 \overline{)625}$        $4 \overline{)235}$        $8 \overline{)199}$

**Exercise 2**

Say the quotients and remainders quickly:

$65 \div 2 =$        $108 \div 5 =$        $456 \div 9 =$

$86 \div 4 =$        $209 \div 4 =$        $325 \div 8 =$

$79 \div 3 =$        $135 \div 3 =$        $301 \div 6 =$

$92 \div 4 =$        $170 \div 8 =$        $507 \div 7 =$

**Exercise 3**

Copy, and find the quotients. Mark any remainders (r) and place them after the quotients.

$6 \overline{)928}$        $8 \overline{)455}$        $3 \overline{)114}$        $4 \overline{)227}$        $3 \overline{)178}$        $6 \overline{)474}$

$4 \overline{)304}$        $5 \overline{)134}$        $9 \overline{)763}$        $7 \overline{)229}$        $5 \overline{)525}$        $7 \overline{)546}$

## THE GOAL

For the pupils who made no mistakes on page 204.



1. Jim sold 8 lambs for \$1.75 each. With part of the money he bought 26 young hens at 35¢ each. How much of the money did Jim have left?

2. Three girls have \$1. They wish to buy ice cream for 30 cents and candy for 25 cents, and then to share the remainder of the money equally. How many cents will each girl get as her share?

3. Arlene had \$3. She paid \$1.08 car fare, 25¢ for paper and pencils, 15¢ for candy, 5¢ for an eraser, 30¢ for picture shows, and 20¢ for a ticket to the school show. How much did she have left?

4. Clark has \$45 in the bank. If he draws out one-third of the money he has in the bank, how much more money must he have to pay for a suit of clothes that will cost \$22.50?

1. Find the average of 75, 79, 83, 87.
2. Find the difference between 7152 and 3927.
3. Find the product of 5062 and 80.
4. Add:

7	6	52	27	436	622
5	9	75	36	721	396
3	7	98	54	983	487
2	5	67	89	<u>578</u>	<u>938</u>
8	9	<u>34</u>	76		
6	5		<u>45</u>		
<u>9</u>	<u>8</u>				

5. Subtract

$$\begin{array}{r} \$43.60 \\ - 31.76 \\ \hline \end{array}$$

6. Multiply

$$\begin{array}{r} 7436 \\ \times 25 \\ \hline \end{array}$$

7.  $9 \overline{)657}$ 8.  $1565 \div 5 =$ 

9. Multiply

$$\begin{array}{r} \$42.08 \\ \times 37 \\ \hline \end{array}$$

10. Subtract

$$\begin{array}{r} 65,287 \\ - 46,979 \\ \hline \end{array}$$

11.  $79 \times 378 =$ 12.  $6 \overline{)9780}$ 

13. Find the quotient:  $9600 \div 8$
14. Find the difference between \$82.75 and \$45.96.
15. How many gallons in 64 quarts?
16. How many pints in 20 gallons?
17. How many hours from 9:30 A.M. to 1:30 P.M.?
18. How many hours from 7:30 P. M. to midnight?



### Counting the Cost

From the stores where you buy things, find the prices needed in these problems. Copy the problems and put the correct prices in the blanks. Then solve the problems.

1. Robert bought a cap for \$\_. and a pair of shoes for \$\_. How much more did he have to pay for the shoes than for the cap?

2. Jane saw a coat marked \$\_. , gloves \$\_. , a school bag \$\_. , and a fountain pen \$\_. . How many five-dollar bills would be needed to pay for these things, and how much change should be left?

3. Mike went to the market for his mother. He bought

2 lb. beefsteak at  $\_\text{¢}$  a pound

2 doz. eggs at  $\_\text{¢}$  a dozen

5 lb. apples at  $\_\text{¢}$  a pound

$\frac{1}{2}$  doz. oranges at  $\_\text{¢}$  a dozen

How much should Mike pay for these things?

1. Write the sums on a folded paper. (Time, 4 minutes)

65	37	91	782	593	437
73	26	67	445	367	352
24	43	29	861	682	465
<u>81</u>	<u>98</u>	<u>48</u>	<u>576</u>	<u>475</u>	<u>889</u>

2. Subtract. Use a folded paper for the answers. (Time 3 minutes)

569	\$7.40	\$9.37	458	684
<u>134</u>	<u>4.15</u>	<u>6.29</u>	<u>293</u>	<u>361</u>
4850	\$57.65	6927	\$23.69	3624
<u>2948</u>	<u>27.84</u>	<u>5039</u>	<u>15.39</u>	<u>2192</u>

3. Copy these examples and find the products. (Time, 7 minutes after copying)

489	635	903	\$7.40	826
<u>27</u>	<u>50</u>	<u>48</u>	<u>39</u>	<u>77</u>
657	406	392	284	\$7.35
<u>75</u>	<u>25</u>	<u>20</u>	<u>49</u>	<u>38</u>

4. Write the quotients. (Time, 3 minutes after copying)

4) $\overline{788}$	8) $\overline{456}$	6) $\overline{216}$	9) $\overline{423}$	3) $\overline{915}$	5) $\overline{900}$
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5. Copy and divide. (5 minutes after copying.)

7) $\overline{945}$	4) $\overline{828}$	9) $\overline{486}$	6) $\overline{504}$	3) $\overline{504}$	8) $\overline{688}$
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## CHAPTER 10

### PARTS OF NUMBERS



#### Learning about the Parts of Numbers

1. Mary cut a bar of soap into 2 equal parts. Each part is one-half. How many halves are in 1 whole thing? Write **one-half** in figures.

2. Into how many equal parts is the measure divided? How much is 1 part? How many thirds are in 1 whole thing? Write **one-third** in figures.

3. Sue cut a cake into 4 equal parts for herself and 3 friends. What part will Sue get? How many fourths will her friends get? How many fourths are in 1 whole thing? Write **one-fourth** in figures.

4. Mother cut a brick of ice cream into 5 equal parts for the children. She gave Helen 1 part. What part did Helen get? How many parts were left for the other children? How many fifths are in 1 whole thing? Write **one-fifth** in figures.

Look at a yardstick and answer the questions in problems 1, 2, and 3.

1. What part of a yard is 1 foot? Write  $\frac{1}{3}$ .

2. How many feet are the same as  $\frac{2}{3}$  of a yard?  
Write, 2 ft. =  $\frac{2}{3}$  yd.

3. How many feet are the same as  $\frac{3}{3}$  of a yard?  
Write, 3 ft. =  $\frac{3}{3}$  yd. = 1 yd.

4. Read these examples:

$$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = \frac{3}{3} = 1$$

$$\frac{1}{3} + \frac{2}{3} = \frac{3}{3} = 1$$

5. In the measure in this picture, show how much  $\frac{1}{4}$  of a cupful is. How is it marked?



6. In the picture, show how much  $\frac{2}{4}$  or  $\frac{1}{2}$  cupful is. How is it marked?

7. Show what  $\frac{3}{4}$  cupful is. Show  $\frac{4}{4}$  cupful.

8. Read this example:  $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{4}{4} = 1$

9. Say the words to fill the blanks:

1 penny =  $\frac{1}{5}$  of a nickel

2 pennies =  $\frac{2}{5}$  of a nickel

3 pennies =  $\frac{3}{5}$  of a nickel

4 pennies =  $\frac{4}{5}$  of a nickel

5 pennies =  $\frac{5}{5}$  of a nickel

1 nickel =  $\frac{5}{5}$  of a nickel

Numbers like  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{2}{3}$ , and  $\frac{3}{4}$  are fractions.



## Seeing Parts of Numbers

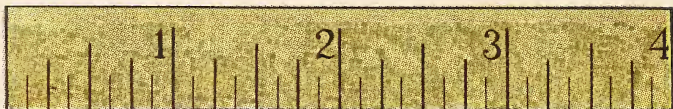
1. Six boys came into the room together. They wore red sweaters and blue sweaters. One-third of the sweaters were blue and the rest were red. How many of the sweaters were blue?

2. Sally looked at the clock and saw parts of an hour. She said, " $\frac{1}{4}$  hour is 15 minutes." How many minutes are  $\frac{1}{2}$  hour?

3. There are 27 boys in our schoolroom. One-third of the boys play on our baseball team. How many of the boys play on our team?

4. Jane's mother gave her 5 nickels to buy toys. How much money is 5 nickels? What is  $\frac{1}{5}$  of 25? Jane spent 15 cents for a doll. How many nickels did she spend?

5. Last Saturday 9 girls had a picnic in the park. One-third of the girls came in cars with their mothers. The other girls came on the bus. One-third of 9 = ?



_____	1 inch (in.)	1. Look at the ruler.
_____	$\frac{1}{2}$ inch	How many $\frac{1}{4}$ in. are in
_____	$\frac{1}{4}$ inch	1 inch? How many $\frac{1}{4}$
—	$\frac{1}{8}$ inch	in. are in $\frac{1}{2}$ inch?

2. How many  $\frac{1}{8}$  in. are in 1 inch? How many  $\frac{1}{8}$  in. are in  $\frac{1}{2}$  inch? How many  $\frac{1}{8}$  in. are in  $\frac{1}{4}$  inch?

3. Copy this exercise and fill the blanks:

$\frac{4}{4}$ in. = 1 in.	$\frac{8}{8}$ in. = 1 in.	$\frac{8}{8} = \frac{1}{4}$
$\frac{4}{4}$ in. = $\frac{1}{2}$ in.	$\frac{8}{8}$ in. = $\frac{1}{2}$ in.	$\frac{4}{4} = \frac{2}{8}$

4. Which is longer?

$\frac{1}{4}$ in. or $\frac{1}{2}$ in.	$\frac{1}{8}$ in. or $\frac{1}{2}$ in.	$\frac{3}{4}$ in. or $\frac{4}{4}$ in.
$\frac{1}{2}$ in. or $\frac{3}{4}$ in.	$\frac{1}{4}$ in. or $\frac{2}{8}$ in.	$\frac{5}{8}$ in. or $\frac{1}{2}$ in.

5. Draw a line 3 inches long.

- Divide this line into inches.
- Divide each inch into  $\frac{1}{2}$  inches.
- Divide each half inch into  $\frac{1}{4}$  inches.

Fourths of an inch are often called quarters of an inch.

6. Use a ruler to draw lines of these lengths:

$2\frac{1}{4}$ inches	$7\frac{1}{2}$ inches	$5\frac{3}{4}$ inches	$4\frac{1}{4}$ inches
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1. Cut a piece of string 1 yard long. How can you measure 1 yard with your foot rule?

? ft. = 1 yd.                      ? in. = 1 yd.                      1 yd. = ? ft.

2. Now divide your string into 3 equal pieces. What part of the string is each piece?

$$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = \frac{3}{3}, \text{ or } 1$$

3. Divide each of the three pieces ( $\frac{1}{3}$ 's) into 2 equal parts. How many pieces have you now? What part of the string is each of the six pieces?

$$\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{6}{6}, \text{ or } 1$$

4. Now draw on the blackboard three lines each 1 yard long, one under the other.

(a) Do not divide the first line into parts.

(b) Divide the middle line into  $\frac{1}{3}$ 's.

(c) Divide the bottom line into  $\frac{1}{6}$ 's.

5. Look at your lines. Which is longer:

$\frac{1}{3} \text{ or } \frac{1}{6}$

$\frac{1}{3} \text{ or } \frac{2}{6}$

$\frac{2}{3} \text{ or } \frac{3}{6}$

$\frac{2}{3} \text{ or } \frac{5}{6}$

6. Look at your lines on the board and tell

$$\text{— sixths} = 1 \text{ third } (\frac{1}{6} = \frac{1}{3})$$

$$\text{— thirds} = 1 (\frac{1}{3} = 1)$$

$$\text{— sixths} = 2 \text{ thirds } (\frac{2}{6} = \frac{2}{3})$$

$$\text{— sixths} = 1 (\frac{1}{6} = 1)$$

7. Look at all of your lines. Tell what words and figures will fill these blanks correctly.

$$\text{— thirds} = 1 (\frac{1}{3} = 1)$$

$$\text{— sixths} = \frac{1}{3} (\frac{1}{6} = \frac{1}{3})$$

$$\text{— sixths} = 1 (\frac{1}{6} = 1)$$

$$\text{— sixths} = \frac{2}{3} (\frac{2}{6} = \frac{2}{3})$$

Below are two bars of the same length.



1. Into how many parts is A divided? What is one part called? How many fifths are in A?

$$\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{5}{5}, \text{ or } 1$$

2. Into how many parts is B divided? What is each part called? How many tenths are in the whole bar?

$$\text{Ten } \frac{1}{10}\text{'s} = \frac{10}{10}, \text{ or } 1$$

3. Show how many fifths are in B. How many tenths are in each  $\frac{1}{5}$  of the line?

4. Read and say the number to fill each blank.

$$\frac{1}{5} = \frac{\quad}{10}$$

$$\frac{2}{5} = \frac{\quad}{10}$$

$$\frac{3}{5} = \frac{\quad}{10}$$

$$\frac{4}{5} = \frac{\quad}{10}$$

$$\frac{5}{5} = \frac{\quad}{10}$$

$$\frac{5}{10} = \frac{\quad}{2}$$

$$\frac{2}{10} = \frac{\quad}{5}$$

$$\frac{8}{10} = \frac{\quad}{5}$$

$$\frac{4}{10} = \frac{\quad}{5}$$

5. How many cents are in 1 dime? What part of a dime is 1 cent? 3 cents? 7 cents? 9 cents?

6. One dime is  $\frac{1}{10}$  of a dollar. Two dimes are how many tenths of a dollar? Three dimes? Four dimes? Five dimes?

7. How many dimes are in 1 dollar? How many dimes do you have when you have  $\frac{1}{2}$  of a dollar?

1. Read this exercise and say the right number for each blank:

1 bu. = __ pk.	1 ft. = __ in.	1 gal. = __ qt.
1 qt. = __ pt.	1 yd. = __ ft.	1 hr. = __ min.

2. Draw clock faces to show your answers to the examples below.

$\frac{1}{3}$  hr. = \_\_ min.

$\frac{1}{4}$  hr. = \_\_ min.

3. Copy this exercise and fill the blanks:

$\frac{1}{2}$  ft. = \_\_ in.

$\frac{1}{10}$  dollar = \_\_ dime

$\frac{1}{2}$  bu. = \_\_ pk.

$\frac{1}{3}$  ft. = \_\_ in.

$\frac{1}{4}$  ft. = \_\_ in.

$\frac{1}{5}$  dime = \_\_ cents

$\frac{1}{4}$  bu. = \_\_ pk.

$\frac{1}{3}$  yd. = \_\_ ft.

$\frac{1}{4}$  gal. = \_\_ qt.

$\frac{1}{2}$  gal. = \_\_ qt.

$\frac{1}{2}$  hr. = \_\_ min.

$\frac{1}{4}$  hr. = \_\_ min.

$\frac{1}{3}$  yd. = \_\_ ft.

$\frac{1}{4}$  bu. = \_\_ pk.

$\frac{1}{3}$  ft. = \_\_ in.

$\frac{1}{4}$  gal. = \_\_ qt.

4. Write these fractions in figures:

one-fourth

one-seventh

one-fifth

one-eighth

five-eighths

three-sixths

three-fourths

seven-tenths

one-third

two-ninths

two-twelfths

nine-tenths

one-twelfth

three-fifths

eight-ninths

one-sixth

five-ninths

four-fifths

two-thirds

seven-eighths

three-tenths

four-ninths

three-eighths

five-sixths

1. Mrs. Jones raised 28 turkeys. The week before Thanksgiving she sold  $\frac{1}{4}$  of them. How many turkeys did she sell?

2. Tom bought  $\frac{1}{2}$  dozen grapefruit at the market. How many grapefruit did he buy?

3. Mary used  $\frac{1}{3}$  yard of blue ribbon for her doll's hat. How many inches of ribbon did she use for the hat?

4. Helen used  $\frac{1}{4}$  yard of ribbon in her doll's sash. How many inches of ribbon did she use in the doll's sash?

Think, 1 yard = 36 inches

1 fourth of 36 inches = 9 in. ( $\frac{1}{4}$  of 36 = 9)

Helen used 9 inches of ribbon.

5. The fourth grade spent 1 half of an hour ( $\frac{1}{2}$  hour) in the gymnasium. How many minutes did they spend in the gymnasium?

Think, 1 hr. = 60 min.

1 half of an hour = 30 min. ( $\frac{1}{2}$  of 60 = 30)

The fourth grade spent 30 minutes in the gymnasium.

6. Bob's uncle promised him  $\frac{1}{5}$  of a quarter if he could tell him how much that is. How much is  $\frac{1}{5}$  of 25 cents?

**1. Say the answers to these examples.**

$\frac{1}{2}$ of 12 =	$\frac{1}{4}$ of 16 =	$\frac{1}{4}$ of 24 =
$\frac{1}{3}$ of 12 =	$\frac{1}{2}$ of 16 =	$\frac{1}{6}$ of 24 =
$\frac{1}{4}$ of 12 =	$\frac{1}{4}$ of 36 =	$\frac{1}{3}$ of 24 =
$\frac{1}{3}$ of 36 =	$\frac{1}{6}$ of 36 =	$\frac{1}{2}$ of 24 =

**2. Here are some more examples in finding parts of numbers. Have a timekeeper see how quickly you can give the correct answers.**

$\frac{1}{4}$ of 28 =	$\frac{1}{4}$ of 32 =	$\frac{1}{3}$ of 21 =
$\frac{1}{5}$ of 10 =	$\frac{1}{3}$ of 18 =	$\frac{1}{4}$ of 20 =
$\frac{1}{2}$ of 30 =	$\frac{1}{3}$ of 9 =	$\frac{1}{3}$ of 27 =
$\frac{1}{6}$ of 18 =	$\frac{1}{4}$ of 8 =	$\frac{1}{5}$ of 25 =
$\frac{1}{3}$ of 30 =	$\frac{1}{6}$ of 48 =	$\frac{1}{4}$ of 56 =
$\frac{1}{5}$ of 40 =	$\frac{1}{5}$ of 35 =	$\frac{1}{3}$ of 39 =

**Review Practice in Division**

**3. Find  $\frac{1}{4}$  of each of these numbers:**

64      128      416      832      924      560      716

**4. Find  $\frac{1}{5}$  of each number:**

105      75      535      455      830      275      600

**5. Find  $\frac{1}{6}$  of each number:**

84      138      540      648      954      702      294

**6. Find  $\frac{1}{3}$  of each number:**

69      276      270      324      477      351      588



### Marking Prices in a Store

1. During the January sale in the linen department at Harper's store all articles were marked at  $\frac{1}{4}$  less than old prices.

Copy the old prices and find the sale prices.

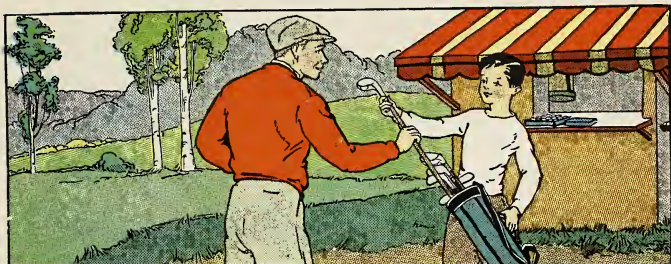
Find what  $\frac{1}{4}$  of the old price is; then subtract, and write the sale price under the old price.

<del>\$24.88</del>	<del>\$36.40</del>	<del>\$16.24</del>	<del>\$32.68</del>	<del>\$18.20</del>	<del>\$10.76</del>
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2. In the millinery department the clerks were marking the sale prices  $\frac{1}{5}$  less than the old price.

Copy these sale tags. Then write the sale prices.

<del>\$2.50</del>	<del>\$1.00</del>	<del>\$4.00</del>	<del>\$3.50</del>	<del>\$6.75</del>	<del>\$10.00</del>
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### What the Caddy Does

1. Dick spends 4 afternoons in every week as a caddy on the golf links. How many afternoons will Dick be there in 2 weeks?

2. The distance from Baldwin to Macon on the highway is 24 miles. When you have driven  $\frac{1}{3}$  of the distance out from Baldwin, you go through an underpass. How far is the underpass from Baldwin?

3. The fourth grade in North Hill school has 28 pupils. Last month  $\frac{1}{4}$  of them made perfect spelling records. How many of these pupils made perfect spelling records that month?

4. Elsie has saved \$54. If she spends  $\frac{1}{6}$  of this money on a trip to visit her cousin, how many dollars will she spend on the trip?

5. Write the answers to these examples.

$$\frac{1}{3} \text{ of } 18 =$$

$$\frac{1}{5} \text{ of } 15 =$$

$$\frac{1}{2} \text{ of } 78 =$$

$$\frac{1}{5} \text{ of } 20 =$$

$$\frac{1}{4} \text{ of } 48 =$$

$$\frac{1}{3} \text{ of } 36 =$$

$$\frac{1}{3} \text{ of } 27 =$$

$$\frac{1}{6} \text{ of } 30 =$$

$$\frac{1}{4} \text{ of } 36 =$$

1. Lucy, Helen, and John wanted to make paper chains for their playroom. They all wanted red and there were only 7 small sheets of that kind.

$$\begin{array}{r} 2 \text{ and } 1 \text{ r} \\ 3 \overline{)7} \end{array}$$

To divide these 7 sheets equally, they said

$$7 \div 3 = 2, \text{ and } 1 \text{ left.}$$



$$2\frac{1}{3}$$

+



$$2\frac{1}{3}$$

+



$$2\frac{1}{3} = 7$$

Each child could have 2 whole sheets and  $\frac{1}{3}$  of the 1 sheet that was left.

2. Sally shared 16 candy bars equally with 5 girls who were visiting her. How much of the candy did each of the 5 girls have?

$$\begin{array}{r} 3 \text{ and } 1 \text{ r} \\ 5 \overline{)16} \end{array}$$

$$16 \div 5 = 3 \text{ and } 1 \text{ remaining}$$



$$3\frac{1}{5}$$

+

$$3\frac{1}{5}$$

+

$$3\frac{1}{5}$$

+

$$3\frac{1}{5}$$

+

$$3\frac{1}{5} = 16$$

Each girl had 3 candy bars and  $\frac{1}{5}$  of the remaining bar.



3. Clark, Bob, and John are picking the ripe strawberries in 4 long rows of strawberry plants. How many rows should each boy pick?  $4 \div 3 = ?$

$\begin{array}{r} 1 \text{ and } 1 \text{ r} \\ 3 \overline{)4} \end{array}$
--

$4 \div 3 = 1$  and 1 remaining.

$4 \div 3 = 1$  and  $\frac{1}{3}$

Each boy should pick 1 whole row and  $\frac{1}{3}$  of one more row.

4. Now look at the examples from problems 1, 2, and 3 on pages 222 and 223.

(1) 2 and 1 r	(2) 3 and 1 r	(3) 1 and 1 r
$3 \overline{)7}$	$5 \overline{)16}$	$3 \overline{)4}$

We show the division of a remainder by writing the remainder over the divisor, like this:

$7 \div 3 = 2\frac{1}{3}$

$16 \div 5 = 3\frac{1}{5}$

$4 \div 3 = 1\frac{1}{3}$

5. See how these numbers and fractions are read:

$2\frac{1}{3}$  is read two and one-third

$3\frac{1}{5}$  is read three and one-fifth

$1\frac{1}{3}$  is read one and one-third

Read these numbers again:  $2\frac{1}{3}$        $3\frac{1}{5}$        $1\frac{1}{3}$

**Dividing the Remainder of Something**

Find the quotient in each problem. Write the remainders as fractions.

1. Mary has 17 apples. She used half of them in making apple pies. How many apples are  $\frac{1}{2}$  of 17?

2. Jane's mother gave her 4 yards of ribbon. Jane used it on 3 packages. How much ribbon could she use on each package?

3. Mrs. Thomas bought grapefruit at 4 for 17 cents. How much did each grapefruit cost her?

4. Jimmie bought pecans at 3 pounds for \$1.00. How much was that for each pound?

5. How much does each orange cost if you buy 6 for 25¢?

6. How much does each nut bar cost if you buy 4 for 5¢?

7. Below are the marked prices of articles in the Barnes Dry Goods store:

Small towels, 4 for 69¢	Hose, 3 pairs for \$1.00
Large towels, 6 for \$1.75	Socks, 3 pairs for 88¢
Bath soap, 6 bars for 49¢	Aprons, 2 for 45¢

If you buy the number printed on the card, what do you pay for each small towel? For each large towel? For each pair of socks? For each pair of hose? For each apron? For each bar of soap?



1. Look at A and tell how many sixths equal one-third. ( $\frac{1}{6} = \frac{1}{3}$ ) How many sixths equal  $\frac{2}{3}$ ?



2. Look at B. How many fourths equal one-half? ( $\frac{1}{4} = \frac{1}{2}$ ) How many sixths equal one-half? ( $\frac{1}{6} = \frac{1}{2}$ )

3. Write the quotients to these examples on a folded paper. If any remainders are fourths or sixths, see if you can write them as one-half.

$$\begin{array}{r} 6 \overline{)327} \\ 3 \overline{)2794} \end{array} \quad \begin{array}{r} 2 \overline{)257} \\ 4 \overline{)497} \end{array} \quad \begin{array}{r} 5 \overline{)3911} \\ 6 \overline{)4945} \end{array} \quad \begin{array}{r} 2 \overline{)1793} \\ 4 \overline{)1981} \end{array} \quad \begin{array}{r} 6 \overline{)3307} \\ 3 \overline{)1993} \end{array}$$

4. Add and say the sum in each example:

$$2 \text{ thirds} + 1 \text{ third} = \underline{\quad} \text{ thirds}$$

$$\frac{2}{3} + \frac{1}{3} = \frac{\quad}{\quad}$$

$$1 \text{ half} + 1 \text{ half} = \underline{\quad} \text{ halves}$$

$$\frac{1}{2} + \frac{1}{2} = \frac{\quad}{\quad}$$

$$4 \text{ sixths} + 1 \text{ sixth} = \underline{\quad} \text{ sixths}$$

$$\frac{4}{6} + \frac{1}{6} = \frac{\quad}{\quad}$$

$$3 \text{ fifths} + 2 \text{ fifths} = \underline{\quad} \text{ fifths}$$

$$\frac{3}{5} + \frac{2}{5} = \frac{\quad}{\quad}$$

5. Subtract and say the remainders:

$$6 \text{ sixths minus } \frac{1}{6} = \underline{\quad} \text{ sixths}$$

$$\frac{6}{6} - \frac{1}{6} = \frac{\quad}{\quad}$$

$$3 \text{ fourths minus } \frac{1}{4} = \underline{\quad} \text{ fourths}$$

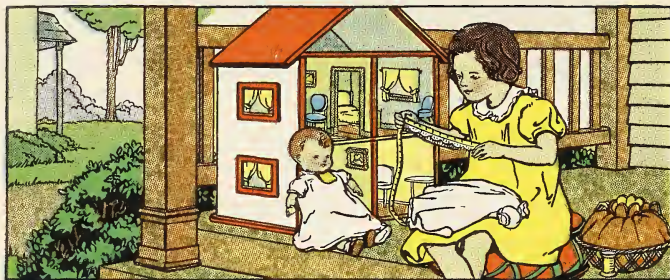
$$\frac{3}{4} - \frac{1}{4} = \frac{\quad}{\quad}$$

$$4 \text{ fourths minus } \frac{2}{4} = \underline{\quad} \text{ fourths}$$

$$\frac{4}{4} - \frac{2}{4} = \frac{\quad}{\quad}$$

$$5 \text{ fifths minus } \frac{1}{5} = \underline{\quad} \text{ fifths}$$

$$\frac{5}{5} - \frac{1}{5} = \frac{\quad}{\quad}$$



Read each problem, and answer the question.

1. Mary's mother gave her  $\frac{1}{2}$  yard of lace to trim a doll dress. Mary bought  $\frac{1}{2}$  yard more. How much lace did Mary have for the doll dress?  $\frac{1}{2} + \frac{1}{2} = \frac{2}{2}$

2. June bought  $\frac{3}{8}$  yard of lace for her collar and  $\frac{2}{8}$  yard for cuffs. How much lace did she buy?

3. Gale had  $\frac{3}{4}$  lb. of candy. She gave  $\frac{1}{4}$  lb. to Helen. Gale had  $\frac{3}{4}$  lb. of candy left?  $\frac{3}{4} - \frac{1}{4} = \frac{2}{4}$

4. A recipe called for 1 lb. of butter. Mother had only  $\frac{1}{4}$  lb. How much more butter did she need?

5. Jim had  $\frac{7}{8}$  of a yard of red paper and used  $\frac{5}{8}$  of a yard to make his kite. How much red paper did he have left?

6. In making doll dresses, Sally needs  $\frac{1}{4}$  yard white goods and  $\frac{3}{4}$  yard blue goods. How many yards of goods does she need for the dresses?

## Doubling the Recipe

Read all the steps in problems 1 and 2 below.

1.

- a.  $\frac{3}{4} + \frac{2}{4} = \frac{5}{4}$
- b.  $\frac{4}{4} = 1$ , then
- c.  $\frac{5}{4} = \frac{1}{4}$  more than 1
- d.  $\frac{5}{4} = 1\frac{1}{4}$
- e.  $\frac{3}{4} + \frac{2}{4} = \frac{5}{4}$  or  $1\frac{1}{4}$

2.

- a.  $\frac{3}{5} + \frac{4}{5} = \frac{7}{5}$
- b.  $\frac{5}{5} = 1$
- c.  $\frac{7}{5} = \frac{2}{5}$  more than 1
- d.  $\frac{7}{5} = 1\frac{2}{5}$
- e.  $\frac{3}{5} + \frac{4}{5} = 1\frac{2}{5}$

3. Copy. Write the answers as 1 and a fraction.

$$\frac{2}{3} + \frac{2}{3} =$$

$$\frac{3}{6} + \frac{5}{6} =$$

$$\frac{3}{4} + \frac{3}{4} =$$

$$\frac{2}{5} + \frac{5}{5} =$$

$$\frac{2}{2} + \frac{1}{2} =$$

$$\frac{8}{10} + \frac{3}{10} =$$

4. Ruth uses this recipe. One day she doubled the recipe by measuring two times for each thing she used. Write the recipe to show what amounts Ruth used that day.

$1\frac{1}{2}$  pt. milk

3 tablespoons sugar

3 eggs

$\frac{1}{4}$  teaspoon salt

$1\frac{1}{2}$  teaspoons flavoring

5. When Joan had company, she doubled the cake recipe below. Write the recipe showing how much of each thing she used.

$\frac{1}{3}$  cup butter

$1\frac{3}{5}$  cups flour

1 cup sugar

$\frac{2}{3}$  teaspoon vanilla

2 eggs

$1\frac{1}{3}$  tablespoons cocoa

$\frac{2}{3}$  cup milk

$\frac{2}{3}$  teaspoon cinnamon

$1\frac{1}{3}$  teaspoons baking powder

## 1. Count by fractions:

- (a) Begin counting  $\frac{1}{2}$ , 1,  $1\frac{1}{2}$ , and count by  $\frac{1}{2}$ 's to 5.  
 (b) Begin  $\frac{1}{3}$ ,  $\frac{2}{3}$ , 1,  $1\frac{1}{3}$ , and count by  $\frac{1}{3}$ 's to 5.  
 (c) Begin  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ ,  $1\frac{1}{4}$ , and count by  $\frac{1}{4}$ 's to 5.  
 (d) Begin  $\frac{1}{5}$ ,  $\frac{2}{5}$ ,  $\frac{3}{5}$ ,  $\frac{4}{5}$ , 1,  $1\frac{1}{5}$ , and count to 5.

## 2. Which fraction is larger?

$\frac{1}{2}$  or  $\frac{1}{3}$

$\frac{1}{4}$  or  $\frac{1}{2}$

$\frac{1}{5}$  or  $\frac{1}{10}$

$\frac{1}{3}$  or  $\frac{1}{5}$

$\frac{1}{4}$  or  $\frac{1}{6}$

$\frac{1}{2}$  or  $\frac{1}{5}$

$\frac{1}{6}$  or  $\frac{1}{3}$

$\frac{1}{6}$  or  $\frac{1}{5}$

3. Which will buy the most,  $\frac{1}{2}$  dollar,  $\frac{1}{5}$  dollar, or  $\frac{1}{4}$  dollar? Which will buy the least?

4. Which is the longest,  $\frac{1}{3}$  yard,  $\frac{1}{2}$  yard, or  $\frac{1}{6}$  yard? Which is the shortest?

## \* 5. Write the answers on a folded paper:

(a)  $\frac{1}{2}$  of 24 =  $\frac{1}{3}$  of 18 =  $\frac{1}{4}$  of 48 =

(b)  $\frac{1}{3}$  of 12 =  $\frac{1}{5}$  of 25 =  $\frac{1}{5}$  of 20 =

(c)  $\frac{1}{4}$  of 24 =  $\frac{1}{5}$  of 35 =  $\frac{1}{5}$  of 15 =

## 6. Say the answers to these examples:

(a)  $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$

$\frac{4}{4} - \frac{3}{4} = \frac{1}{4}$

(b)  $\frac{1}{5} + \frac{4}{5} = \frac{5}{5} = 1$

$\frac{2}{5} + \frac{1}{5} + \frac{1}{5} = \frac{4}{5}$

(c)  $\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$

$\frac{2}{6} + \frac{2}{6} + \frac{1}{6} = \frac{5}{6}$

(d)  $\frac{1}{10} + \frac{2}{10} = \frac{3}{10}$

$\frac{3}{10} + \frac{4}{10} + \frac{1}{10} = \frac{8}{10} = \frac{4}{5}$

(e)  $\frac{5}{6} - \frac{4}{6} = \frac{1}{6}$

$\frac{2}{4} + \frac{1}{4} + \frac{1}{4} = \frac{4}{4} = 1$

\*1. Copy and find the quotients for these examples.  
Write the remainder r.

$5\overline{)193}$	$4\overline{)51}$	$3\overline{)116}$	$6\overline{)167}$	$8\overline{)99}$	$4\overline{)274}$
$2\overline{)87}$	$7\overline{)86}$	$4\overline{)370}$	$2\overline{)109}$	$3\overline{)419}$	$6\overline{)619}$
$8\overline{)213}$	$9\overline{)821}$	$7\overline{)194}$	$5\overline{)148}$	$6\overline{)227}$	$7\overline{)184}$

\*2. Read these examples and say the answers:

A	B	C	D
$\frac{1}{5}$ of 35 =	$\frac{1}{2}$ of 36 =	$\frac{1}{8}$ of 56 =	$\frac{1}{3}$ of 12 =
$\frac{1}{5}$ of 45 =	$\frac{1}{4}$ of 36 =	$\frac{1}{8}$ of 48 =	$\frac{1}{6}$ of 12 =
$\frac{1}{4}$ of 24 =	$\frac{1}{2}$ of 18 =	$\frac{1}{2}$ of 24 =	$\frac{1}{2}$ of 32 =
$\frac{1}{4}$ of 44 =	$\frac{1}{6}$ of 18 =	$\frac{1}{4}$ of 24 =	$\frac{1}{8}$ of 32 =

3. Read, and say the answers:

$\frac{1}{2} = 1$	$\frac{3}{3} = 1$	$1 = \frac{4}{4}$	$1 = \frac{6}{6}$
$\frac{1}{4} = \frac{1}{2}$	$\frac{6}{6} = \frac{1}{2}$	$\frac{6}{6} = \frac{2}{3}$	$\frac{6}{6} = \frac{1}{2}$

4. Without using a pencil, divide each of these numbers by 7:

700	420	637	560	147	280	490
-----	-----	-----	-----	-----	-----	-----

5. Write the quotients on your paper.

$6\overline{)540}$	$2\overline{)180}$	$7\overline{)350}$	$5\overline{)450}$	$4\overline{)360}$
$9\overline{)810}$	$4\overline{)280}$	$8\overline{)640}$	$3\overline{)300}$	$7\overline{)490}$

6. Write the quotients on your paper.

$8\overline{)400}$	$6\overline{)240}$	$9\overline{)720}$	$5\overline{)300}$	$7\overline{)210}$
$4\overline{)160}$	$3\overline{)900}$	$7\overline{)280}$	$6\overline{)420}$	$9\overline{)360}$

1. 1 1 2 2 1 3 5 1 8 7

10.  $\begin{array}{cccccccccc} 6 & 5 & 8 & 7 & 5 & 9 & 6 & 9 & 7 & 8 \\ 8 & 8 & 7 & 8 & 9 & 6 & 9 & 7 & 9 & 5 \end{array}$

To be strong in subtraction you should be able to say all the remainders in 5 minutes.

1.	$\begin{array}{r} 10 \\ \underline{5} \end{array}$	$\begin{array}{r} 9 \\ \underline{1} \end{array}$	$\begin{array}{r} 2 \\ \underline{1} \end{array}$	$\begin{array}{r} 0 \\ \underline{0} \end{array}$	$\begin{array}{r} 3 \\ \underline{2} \end{array}$	$\begin{array}{r} 4 \\ \underline{1} \end{array}$	$\begin{array}{r} 4 \\ \underline{3} \end{array}$	$\begin{array}{r} 3 \\ \underline{1} \end{array}$	$\begin{array}{r} 8 \\ \underline{1} \end{array}$	$\begin{array}{r} 4 \\ \underline{2} \end{array}$
2.	$\begin{array}{r} 9 \\ \underline{8} \end{array}$	$\begin{array}{r} 9 \\ \underline{9} \end{array}$	$\begin{array}{r} 7 \\ \underline{6} \end{array}$	$\begin{array}{r} 11 \\ \underline{5} \end{array}$	$\begin{array}{r} 2 \\ \underline{0} \end{array}$	$\begin{array}{r} 4 \\ \underline{0} \end{array}$	$\begin{array}{r} 7 \\ \underline{1} \end{array}$	$\begin{array}{r} 5 \\ \underline{1} \end{array}$	$\begin{array}{r} 8 \\ \underline{0} \end{array}$	$\begin{array}{r} 5 \\ \underline{2} \end{array}$
3.	$\begin{array}{r} 8 \\ \underline{7} \end{array}$	$\begin{array}{r} 6 \\ \underline{3} \end{array}$	$\begin{array}{r} 14 \\ \underline{7} \end{array}$	$\begin{array}{r} 6 \\ \underline{5} \end{array}$	$\begin{array}{r} 8 \\ \underline{4} \end{array}$	$\begin{array}{r} 5 \\ \underline{0} \end{array}$	$\begin{array}{r} 7 \\ \underline{0} \end{array}$	$\begin{array}{r} 11 \\ \underline{6} \end{array}$	$\begin{array}{r} 7 \\ \underline{7} \end{array}$	$\begin{array}{r} 12 \\ \underline{4} \end{array}$
4.	$\begin{array}{r} 12 \\ \underline{6} \end{array}$	$\begin{array}{r} 5 \\ \underline{4} \end{array}$	$\begin{array}{r} 10 \\ \underline{2} \end{array}$	$\begin{array}{r} 10 \\ \underline{1} \end{array}$	$\begin{array}{r} 6 \\ \underline{2} \end{array}$	$\begin{array}{r} 8 \\ \underline{6} \end{array}$	$\begin{array}{r} 3 \\ \underline{0} \end{array}$	$\begin{array}{r} 6 \\ \underline{0} \end{array}$	$\begin{array}{r} 3 \\ \underline{3} \end{array}$	$\begin{array}{r} 9 \\ \underline{0} \end{array}$
5.	$\begin{array}{r} 5 \\ \underline{5} \end{array}$	$\begin{array}{r} 2 \\ \underline{2} \end{array}$	$\begin{array}{r} 6 \\ \underline{1} \end{array}$	$\begin{array}{r} 8 \\ \underline{8} \end{array}$	$\begin{array}{r} 1 \\ \underline{0} \end{array}$	$\begin{array}{r} 1 \\ \underline{1} \end{array}$	$\begin{array}{r} 10 \\ \underline{9} \end{array}$	$\begin{array}{r} 4 \\ \underline{4} \end{array}$	$\begin{array}{r} 5 \\ \underline{3} \end{array}$	$\begin{array}{r} 6 \\ \underline{6} \end{array}$
6.	$\begin{array}{r} 6 \\ \underline{4} \end{array}$	$\begin{array}{r} 9 \\ \underline{6} \end{array}$	$\begin{array}{r} 7 \\ \underline{2} \end{array}$	$\begin{array}{r} 9 \\ \underline{2} \end{array}$	$\begin{array}{r} 7 \\ \underline{3} \end{array}$	$\begin{array}{r} 9 \\ \underline{5} \end{array}$	$\begin{array}{r} 11 \\ \underline{3} \end{array}$	$\begin{array}{r} 8 \\ \underline{3} \end{array}$	$\begin{array}{r} 16 \\ \underline{8} \end{array}$	$\begin{array}{r} 9 \\ \underline{7} \end{array}$
7.	$\begin{array}{r} 8 \\ \underline{5} \end{array}$	$\begin{array}{r} 10 \\ \underline{8} \end{array}$	$\begin{array}{r} 9 \\ \underline{3} \end{array}$	$\begin{array}{r} 11 \\ \underline{8} \end{array}$	$\begin{array}{r} 7 \\ \underline{5} \end{array}$	$\begin{array}{r} 7 \\ \underline{4} \end{array}$	$\begin{array}{r} 10 \\ \underline{3} \end{array}$	$\begin{array}{r} 12 \\ \underline{8} \end{array}$	$\begin{array}{r} 12 \\ \underline{9} \end{array}$	$\begin{array}{r} 11 \\ \underline{2} \end{array}$
8.	$\begin{array}{r} 13 \\ \underline{6} \end{array}$	$\begin{array}{r} 11 \\ \underline{4} \end{array}$	$\begin{array}{r} 10 \\ \underline{7} \end{array}$	$\begin{array}{r} 9 \\ \underline{4} \end{array}$	$\begin{array}{r} 10 \\ \underline{6} \end{array}$	$\begin{array}{r} 18 \\ \underline{9} \end{array}$	$\begin{array}{r} 10 \\ \underline{4} \end{array}$	$\begin{array}{r} 8 \\ \underline{2} \end{array}$	$\begin{array}{r} 12 \\ \underline{3} \end{array}$	$\begin{array}{r} 17 \\ \underline{8} \end{array}$
9.	$\begin{array}{r} 13 \\ \underline{4} \end{array}$	$\begin{array}{r} 14 \\ \underline{5} \end{array}$	$\begin{array}{r} 11 \\ \underline{7} \end{array}$	$\begin{array}{r} 17 \\ \underline{9} \end{array}$	$\begin{array}{r} 11 \\ \underline{9} \end{array}$	$\begin{array}{r} 13 \\ \underline{9} \end{array}$	$\begin{array}{r} 13 \\ \underline{7} \end{array}$	$\begin{array}{r} 14 \\ \underline{6} \end{array}$	$\begin{array}{r} 12 \\ \underline{5} \end{array}$	$\begin{array}{r} 14 \\ \underline{9} \end{array}$
10.	$\begin{array}{r} 12 \\ \underline{7} \end{array}$	$\begin{array}{r} 14 \\ \underline{8} \end{array}$	$\begin{array}{r} 15 \\ \underline{6} \end{array}$	$\begin{array}{r} 15 \\ \underline{8} \end{array}$	$\begin{array}{r} 15 \\ \underline{7} \end{array}$	$\begin{array}{r} 15 \\ \underline{9} \end{array}$	$\begin{array}{r} 16 \\ \underline{7} \end{array}$	$\begin{array}{r} 13 \\ \underline{8} \end{array}$	$\begin{array}{r} 16 \\ \underline{9} \end{array}$	$\begin{array}{r} 13 \\ \underline{5} \end{array}$

To be strong in multiplication you should be able to say the products in 5 minutes.

1.	$5 \times 1$	$1 \times 4$	$2 \times 5$	$1 \times 5$	$2 \times 1$
2.	$1 \times 6$	$2 \times 2$	$1 \times 3$	$3 \times 1$	$1 \times 7$
3.	$3 \times 2$	$7 \times 1$	$5 \times 2$	$2 \times 8$	$1 \times 0$
4.	$6 \times 1$	$2 \times 3$	$3 \times 3$	$9 \times 1$	$5 \times 4$
5.	$2 \times 7$	$1 \times 2$	$2 \times 0$	$4 \times 1$	$0 \times 2$
6.	$5 \times 0$	$2 \times 4$	$3 \times 0$	$4 \times 3$	$0 \times 3$
7.	$7 \times 2$	$8 \times 0$	$5 \times 5$	$1 \times 9$	$0 \times 0$
8.	$3 \times 5$	$6 \times 0$	$8 \times 1$	$0 \times 6$	$4 \times 2$
9.	$1 \times 8$	$0 \times 1$	$4 \times 0$	$1 \times 1$	$0 \times 4$
10.	$4 \times 4$	$2 \times 6$	$0 \times 5$	$8 \times 2$	$5 \times 3$

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11.	$3 \times 6$	$0 \times 8$	$6 \times 5$	$9 \times 0$	$0 \times 7$
12.	$9 \times 2$	$0 \times 9$	$7 \times 0$	$6 \times 2$	$2 \times 9$
13.	$4 \times 5$	$3 \times 4$	$6 \times 3$	$5 \times 7$	$7 \times 3$
14.	$9 \times 9$	$3 \times 7$	$6 \times 4$	$5 \times 9$	$7 \times 7$
15.	$4 \times 6$	$7 \times 5$	$3 \times 9$	$3 \times 8$	$6 \times 6$
16.	$5 \times 8$	$9 \times 5$	$4 \times 8$	$9 \times 3$	$5 \times 6$
17.	$7 \times 4$	$4 \times 9$	$8 \times 8$	$8 \times 5$	$4 \times 7$
18.	$8 \times 6$	$8 \times 3$	$7 \times 6$	$6 \times 7$	$9 \times 4$
19.	$6 \times 8$	$8 \times 4$	$9 \times 8$	$7 \times 8$	$8 \times 9$
20.	$9 \times 6$	$7 \times 9$	$8 \times 7$	$6 \times 9$	$9 \times 7$

To be strong in division you should be able to say the quotients in 5 minutes.

1.	$4 \div 2$	$10 \div 2$	$25 \div 5$	$9 \div 3$	$10 \div 5$
2.	$6 \div 2$	$14 \div 2$	$15 \div 3$	$8 \div 2$	$12 \div 2$
3.	$20 \div 5$	$81 \div 9$	$14 \div 7$	$16 \div 2$	$7 \div 1$
4.	$36 \div 6$	$12 \div 6$	$5 \div 1$	$15 \div 5$	$12 \div 3$
5.	$4 \div 1$	$30 \div 5$	$21 \div 3$	$6 \div 1$	$21 \div 7$
6.	$12 \div 4$	$8 \div 1$	$40 \div 5$	$3 \div 1$	$16 \div 4$
7.	$27 \div 9$	$2 \div 1$	$18 \div 3$	$2 \div 2$	$9 \div 1$
8.	$3 \div 3$	$1 \div 1$	$16 \div 8$	$20 \div 4$	$4 \div 4$
9.	$7 \div 7$	$32 \div 8$	$6 \div 6$	$35 \div 5$	$18 \div 9$
<hr/>					
10.	$5 \div 5$	$42 \div 6$	$0 \div 1$	$0 \div 6$	$45 \div 5$
11.	$0 \div 3$	$8 \div 4$	$6 \div 3$	$35 \div 7$	$30 \div 6$
12.	$0 \div 4$	$0 \div 8$	$45 \div 9$	$0 \div 2$	$56 \div 7$
13.	$18 \div 2$	$0 \div 7$	$24 \div 6$	$32 \div 4$	$0 \div 9$
14.	$72 \div 9$	$18 \div 6$	$8 \div 8$	$24 \div 3$	$9 \div 9$
15.	$72 \div 8$	$0 \div 5$	$40 \div 8$	$49 \div 7$	$48 \div 6$
16.	$24 \div 4$	$24 \div 8$	$27 \div 3$	$28 \div 7$	$63 \div 7$
17.	$36 \div 9$	$42 \div 7$	$64 \div 8$	$48 \div 8$	$28 \div 4$
18.	$54 \div 6$	$36 \div 4$	$54 \div 9$	$63 \div 9$	$56 \div 8$

**Tables of Measure****Table of Time**

60 minutes (min.) = 1 hour (hr.)

24 hours = 1 day

7 days = 1 week (wk.)

12 months (mo.) = 1 year (yr.)

365 days = 1 year

366 days = 1 leap year

**Table of Length**

12 inches (in.) = 1 foot (ft.)

3 feet = 1 yard (yd.)

36 inches = 1 yard

5280 feet = 1 mile (mi.)

**Liquid Measure**

2 pints (pt.) = 1 quart (qt.)

4 quarts = 1 gallon (gal.)

**Dry Measure**

8 quarts (qt.) = 1 peck (pk.)

4 pecks = 1 bushel (bu.)

**Weight**

16 ounces (oz.) = 1 pound (lb.)

2000 pounds = 1 ton (T.)

**Table of Money**

10 cents (¢) = 1 dime

10 dimes = 1 dollar (\$)

100 cents = 1 dollar

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